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ON THE SPECIES OF THE GENUS MARGARINOTUS FROM JAPAN
(COLEOPTERA: HISTERIDAE)

By MASAHIRO ÔHARA

Abstract

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The species of the genus *Margarinotus* Marseul from Japan are revised. A key and descriptions are given to ten species, of which, *M. (Ptomister) yezoensis* is new to science, and *M. (P.) cadavericola* (Bickh.) and *M. (P.) reichardti* Kryzh. are newly recorded from Japan. *M. (P.) marginepunctatus* is transferred from subgenus *Promethister* to subgenus *Ptomister*. The genitalia of both the sexes, except for the female of *M. (P.) reichardti*, and several useful taxonomic features are illustrated.

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INTRODUCTION

The genus *Margarinotus* was erected by Marseul (1853) with *Hister scaber* Fabricius, 1787, as the type species. The genus was characterized by "configuration singulière du dos, où les stries semblent remplacées par des rangées de tubercules luisants et saillants, en guise de perles sur un fond obscur et rugueux" (Marseul, 1853), and had long been limited to two species, the Palaearctic *scaber* F. and the Nearctic *guttifer* Horn.

Since Wenzel's (1944) study on the genus *Margarinotus* Mars. was published, it has elicited much taxonomic discussion as to genera or subgenera which are related to the genus *Margarinotus* Mars. (Kryzhanovskij, 1966; Mazur, 1972; Kryzhanovskij and Reichardt, 1976; Vienna, 1977; Olexa, 1982). This is due to the fact that he included in the genus the species of *Paralister*, *Grammostethus*, *Stenister*, and a great part of the genus *Hister* by reason of similarities in the structure of the male genitalia.

Nowadays many authors accept *Margarinotus* in Wenzel's sense as a good genus. According to the recent world catalogue of Histeridae prepared by Mazur (1984b), the genus *Margarinotus* Mars. is divisible into 7 subgenera, *Margarinotus* Marseul, 1853, *Ptomister* Houlbert et Monnot, 1923, *Eucalohister* Reitter, 1909, *Stenister* Reichardt, 1926, *Paralister* Bickhardt, 1917, *Grammostethus* Lewis, 1906, and *Promethister* Kryzhanovskij, 1966, and includes 91 known species in the world. However, phylogenetic relationships among the subgenera have not yet been revised critically.

In this paper I recognize ten species of the genus *Margarinotus* Mars. from Japan, which belong to two subgenera: *Ptomister* Houlbert et Monnot and *Grammostethus* Lewis. The subgenus *Ptomister* includes 9 of them; one of them is a new species, *yezoensis*, and two, *cadavericola* and *reichardti*, are newly recorded. All these species can be divided into three groups on the basis of the structure of the male genitalia: 1) *boleti*-group, 2) *weymarni*-group, and 3) *sutus*-group. The other subgenus *Grammostethus* is represented by one species, *niponicus*, in Japan. At the conclusion, notes are given on the phylogenetic relationship among the subgenera.

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TERMINOLOGY

I mainly follow Wenzel and Dybas (1941) for the terminology of the striae and body parts (Fig. 1-A, B, C). Head with a frontal and a supraorbital stria.

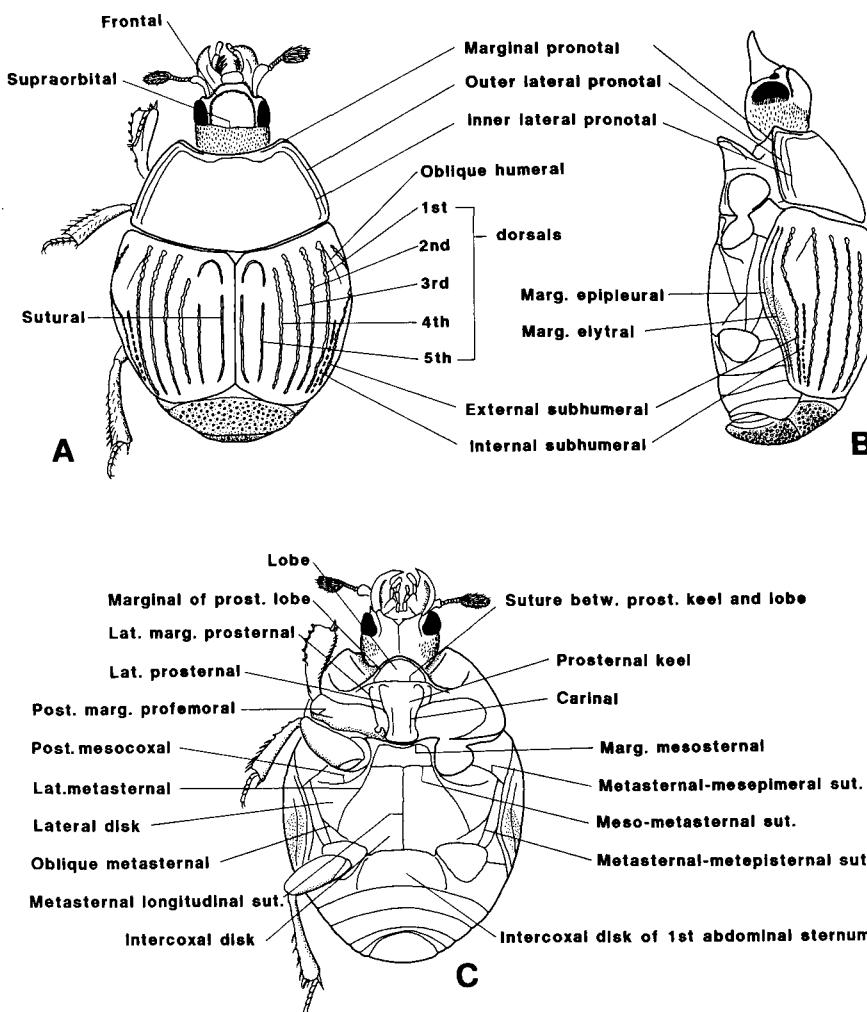


Fig. 1. A: Dorsal view of a *Margarinotus* showing principal striae. B: Lateral view, ditto. C: Ventral view, showing principal striae and parts.

Pronotum with three striae which are named marginal, outer lateral, and inner lateral from outside to inside. Each elytron with eleven striae, which are named marginal epipleural, marginal elytral, external and internal subhumeral, oblique humeral, first to fifth dorsal, and sutural from outside to inside (the order of numbering in Histeridae is opposite to that in most other Coleoptera).

Ventral side of prosternum with five striae, which are named marginal stria of prosternal lobe, lateral prosternal stria, lateral marginal prosternal stria, sutural stria between prosternal keel and lobe, and carinal stria.

Ventral side of meso- and metasternum with five striae, which are named marginal mesosternal, meso-metasternal (suture), lateral metasternal (a-lateral stria in Wenzel, 1944), oblique (b-lateral stria), and posterior mesocoxal stria (postcoxal). Disk of metasternum is divided into two parts, which are named intercoxal and lateral. The intercoxal disk is divided on mid-line by a suture called metasternal longitudinal suture. A suture between metasternum and mesepimeron is named metasternal-mesepimeral, and that between metasternum and metepisternum is called metasternal-metepisternal.

First abdominal sternum is divided into two parts, intercoxal and lateral disks. A stria on each side of the intercoxal disk is named 1st abdominal stria. Ventral side of profemur with two striae which are named anterior and posterior marginal

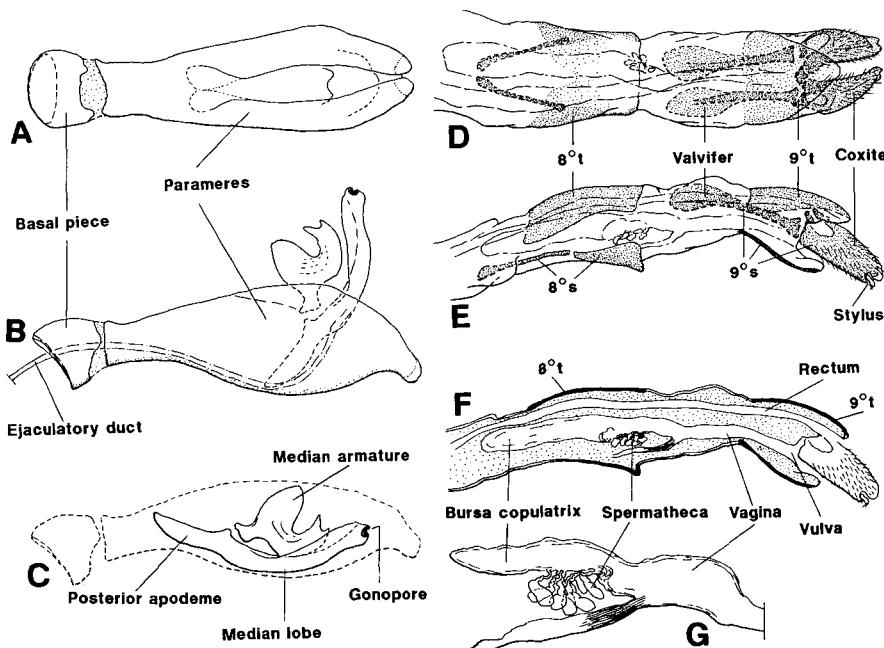


Fig. 2. A : Dorsal view of the aedeagus of the male genitalia of *Margarinotus cadavericola*, showing parts. B : Lateral view with median lobe extruded and median armature rotated upwards. C: Lateral view of the median lobe showing principal parts. D: Dorsal view of the terminal female abdominal segments of *M. agnatus* showing sclerotized principle structure. E: Lateral view (left side), ditto. F: Schematic lateral view (left side) of interior of terminal female abdominal segments. G: Lateral view (left side) of bursa copulatrix and spermatheca of *M. striola*.

profemoral.

Parts of the male and female genitalia are named as in Fig. 2, A-G.

SYSTEMATICS

GENUS MARGARINOTUS MARSEUL, 1853

Margarinotus Marseul, 1853: 549.

Type species: *Hister scaber* Fabricius, 1787: 32.

Wenzel's (1944) diagnosis. "Frontal and supraorbital striae present, the frontal sometimes obsolescent. Anterior pronotal margin emarginate for the reception of the head. One or two lateral pronotal striae present, the outer frequently abbreviated when present. External subhumeral stria nearly always complete, occasionally abbreviated or obliterated; internal subhumeral stria absent, though a few punctures may occasionally be present apically. Dorsal striae well impressed, excepting in *scaber* and *guttifer*. Prosternal keel seldom striate, the striae when present usually emarginate, occasionally truncate (*davisi*) or nearly so. Protibiae with four to sixteen denticles or teeth.

Aedeagus with a ring-shaped articulating basal piece; the rest of the tegmen variable, either bifid apically on dorsal surface or tetrafid. Median lobe sclerotized, subcylindrical, or spoon-shaped, with paired posterior apodemes; gonopore distal. Median armature connected to the base of the median lobe by a sclerotized hinge or by a heavy membrane; median armature, when viewed from above, nearly always forked apically, the forks sometimes fused."

The genus *Margarinotus* in Wenzel's sense may be recognized as a monophyletic taxon, because the species of the genus have the following characters in common which can be interpreted as apomorphic.

- 1) Median lobe of the male genitalia thick, usually like a staff or spoon in shape, with a sclerotized median armature. [← This state is derivable from a thin and flat median lobe without median armature. The supposed plesiomorphic state is shared by other genera of the tribe Histerini, for example, *Hister*, *Atholus*, *Pactolinus* and *Merohister*.]
- 2) Sessil receptacles of the spermatheca of the female genitalia not slender, usually sac-like and coiled at the base. [← The receptacles slender, not coiled at the base.]
- 3) Profemoral posterior marginal stria not entire, usually present on apical third. [← The stria entire.]

On the other hand, the following character of the genus may be plesiomorphic.

- 4) External subhumeral stria of each elytron entire. [→ The stria interrupted or abbreviated.]

Distribution. Palaearctic, Nearctic and Oriental Regions.

Remarks. At a glance the genus *Margarinotus* is very similar to other genera of the tribe Histerini, but it is a good taxon characterized by the apomorphic characters as mentioned above. The genus may be recognized by the entire subhumeral stria of elytron, but the structure of the male genitalia affords more reliable characters for identification.

Key to the subgenera of Japanese *Margarinotus*

1(2) Pronotum with two lateral pronotal striae. subgenus *Ptomister* Houlbert et Monnot, 1923
2(1) Pronotum with one lateral pronotal stria. subgenus *Grammostethus* Lewis, 1906

Vienna (1977) gave a key of the genus *Margarinotus* in "New keys to the Italian species of the tribe Histerini", but his key did not include the subgenus *Margarinotus*. I add the subgenus *Margarinotus* to his key as follows:

1(2) Elytra with shining and projecting tubercles. subgenus *Margarinotus* Marseul
2(1) Elytra without tubercles, usually smooth and shining.
3(6) Pronotum with two lateral striae.
4(5) Meso- and metatibiae broad, triangular, covered with long and yellow pubescence. Epipleura of pronotum with sparse and short hairs. subgenus *Eucalohister* Reitter
5(4) Meso- and metatibiae not broad, normal form without long yellow pubescence. subgenus *Ptomister* Houlbert et Monnot
6(3) Pronotum with one lateral stria.
7(8) Pronotal marginal stria short, usually present on apical area, at most attaining to half length of pronotum. Denticles of protibiae rather large. Body oval. subgenus *Paralister* Bickhardt
8(7) Pronotal marginal stria nearly entire, only abbreviated at the base. Protibiae with large denticles or numerous small ones. Body shape various, from oval to subcylindrical.
9(10) Body shape subcylindrical. All tibiae strongly dilated. Metafemur widened. subgenus *Stenister* Reichardt
10(9) Body shape oval. Tibiae and metafemur normal.
11(12) Area between lateral stria and lateral margin of pronotum considerably swelled up. Sutural stria of elytron almost entire. Prosternum without carinal stria. subgenus *Promethister* Kryzhanovskij
12(11) Area between lateral stria and lateral margin of pronotum flat. Sutural stria of elytron shortened on basal half. Prosternum with carinal stria. subgenus *Grammostethus* Lewis

SUBGENUS PTOMISTER HOULBERT ET MONNOT, 1923

Type species: *Hister merdarinus* Hoffmann, 1803: 39.
Syn.: *Eucalohister* Cooman, 1947: 428, by Mazur, 1984: 164.

The subgenus *Ptomister* was established by Houlbert and Monnot in 1923 as one of the subgenera of the genus *Hister* Linnaeus. They simply gave a diagnosis of the subgenus in their key as follows: "Côtés du thorax finement ponctués ou lisses en dessous, sans poils dressés. Fossettes antennaires distinctes./ Mésosternum échancré en avant. Prosternum arrondi à la base, devant l'échancrure du mésosternum./ Elytres avec une strie subhumérale (interne ou externe)./ Une strie subhumérale externe seulement, soit entière, soit raccourcie en arrière./ Thorax avec deux ou trois stries latérales; épipleures unistriés (au moins chez des espèces françaises)."

Additional diagnosis. Body 4.0-8.5 mm in length, larger than in the other subgenera. Frontal stria of head usually well impressed. Pronotum with marginal, outer and inner lateral striae. Sometimes densely punctate inside inner lateral stria

and between lateral stria and lateral margin of pronotum. External subhumeral stria of elytron complete and well impressed. Internal one usually present on apical half but rudimentary. Dorsal striae variable, but usually 1st to 3rd complete, 4th shortened basally, and 5th and sutural strongly shortened. Propygidium and pygidium usually alutaceous in ground sculpture, with large and ocelloid punctures. Punctuation usually denser on pygidium than on propygidium. Prosternal keel with or without carinal stria. Epipleura of pronotum without yellow hair. Mesosternum with marginal stria. Metasternum with lateral and oblique striae. Lateral metasternal disk usually with coarse punctuation. Intercoxal disk smooth. Protibiae with several large denticles or many small ones. All tibiae dilated moderately, not strongly. Mesotibiae without yellow pubescence. Median lobe of male genitalia various in shape. The Japanese species of the subgenus *Ptomister* are divided into at least three groups by the structure of the median lobe: *boleti*-group, *weymarni*-group and *sutus*-group (see description of each group). Spermatheca of female genitalia consisting of several receptacles, these are sac-shaped (not slender) and usually coiled at the base.

This subgenus includes 36 known species in the world. Most of the species are distributed in the Palaearctic and Nearctic Regions, and a few species are in the Oriental Region.

Key to the Japanese species of *Ptomister*

- 1(2) Inner lateral pronotal stria strongly undulate behind the eyes (Fig. 3-A).
..... *boleti* (Lewis, 1884)
- 2(1) Inner lateral pronotal stria not strongly undulate behind the eyes.
- 3(14) Prosternal keel without carinal stria (sometimes *striola* (Fig. 10-E), *weymarni* and *reichardti* with an obsolete one).
- 4(13) Body larger, 5.0-9.2 mm in length.
- 5(8) Lateral stria of metasternum united with the oblique stria of metasternum (Fig. 7-A).
- 6(7) Lateral disk of metasternum with long hairs (Fig. 4-J). *cadavericola* (Bickhardt, 1920)
- 7(6) Lateral disk of metasternum without hair. *agnatus* (Lewis, 1884)
- 8(5) Lateral stria of metasternum not united with the oblique stria of metasternum (Fig. 7-E).
- 9(10) Lateral disk of metasternum without hair (Fig. 9-D). *reichardti* Kryzhanovskij, 1976
- 10(9) Lateral disk of metasternum with long hair (Fig. 7-B).
- 11(12) Outer lateral pronotal stria extending beyond basal end of inner one (Fig. 6-L).
..... *weymarni* Wenzel, 1944
- 12(11) Outer lateral pronotal stria not extending beyond basal end of inner one (Fig. 12-B).
..... *striola* (C.R. Sahlberg, 1819)
- 13(4) Body smaller, 4.0-4.5 mm in length. *yezoensis* M. Ôhara, sp. nov.
- 14(3) Prosternal keel with carinal striae (Fig. 14-J, O).
- 15(16) Inside the inner pronotal stria densely with large punctures (Fig. 12-B).
..... *marginepunctatus* (Lewis, 1879)
- 16(15) Inside the inner pronotal stria without large punctures (Fig. 12-C). *sutus* (Lewis, 1884)

SPECIES GROUPS AND SPECIES

Boleti-group

1. *boleti* (Lewis)

Median lobe of the male genitalia not expanded on apical half, stick-like, and

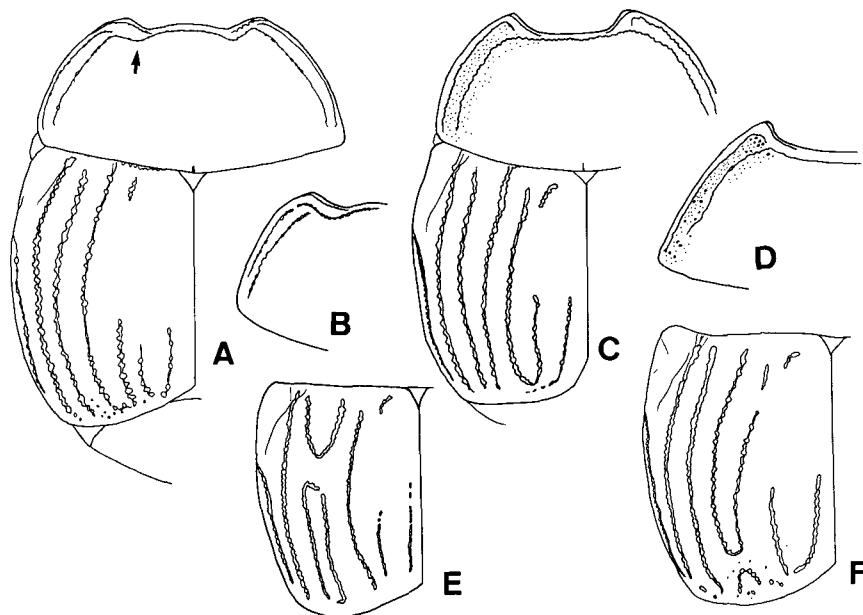


Fig. 3. A-B: *M. (P.) boleti* (Lewis). C-F: *M. (P.) cadavericola* (Bickhardt). A, C: Pronotum and left elytron. B, D: Pronotum. E, F: Left elytron.

without a denticle on dorsal mid-line. Long sclerotized projection developed on basal third on dorsal surface of median lobe (Fig. 5-D). Median armature very small; posterior apodeme rather short and stout.

In external characters, prosternal inner lateral stria strongly undulate behind the eyes.

Judging from Wenzel's (1960) description and figures, *M. fenderi* Wenzel from Washington, North America, seems to be included in this group.

In ecology, *M. boleti* is fungus-dwelling species, and *M. fenderi* seems to be associated with the nest of pocket gopher. Both species are not usual carrion-dwelling carnivorous histerids.

This group is distributed in the Far East, northern India and the Californian subregion.

1. *Margarinotus (Ptomister) boleti* (Lewis, 1884)

Hister boleti Lewis, 1884: 135 [Japan: Chūzenjiko; Kashiwagi in the Kii Peninsula]; Lewis, 1902: 238 [noted]; Bickhardt, 1920: 97, 99 [key]; Kamiya and Takagi, 1938: 30 [listed].

Hister (Hister) boleti: Bickhardt, 1910: 40 [catalogued]; Bickhardt, 1917: 179 [catalogued].

Margarinotus boleti: Wenzel, 1944: 131 [listed, key].

Margarinotus (Margarinotus) boleti: Kryzhanovskij and Reichardt, 1976: 344 [noted, key].

Margarinotus (Ptomister) boleti: Hisamatsu and Kusui, 1984: 17 [noted]; Hisamatsu, 1984: 23 [noted]; Mazur, 1984b: 165 [catalogued]; Hisamatsu, 1985: 227, pl. 4, f. 12 [key, photo, noted].

Description. ♂ ♀. Body length, PPL (=length between anterior angles of

Table 1. Biometric data for *Margarinotus boleti* (Lewis).

Part measured	Male	Female
APW	1.63-1.88 (1.78±0.029) 8	1.57-1.88 (1.82±0.056) 5
PPW	3.89-4.77 (4.34±0.078) 8	3.70-4.52 (4.30±0.137) 5
PL	2.13-2.51 (2.40±0.048) 8	1.82-2.57 (2.32±0.121) 5
EL	2.89-3.39 (3.29±0.058) 8	2.88-3.51 (3.31±0.099) 5
EW	4.52-5.71 (5.16±0.011) 8	4.64-5.46 (5.20±0.129) 5
ProW	2.69-3.14 (3.01±0.052) 7	2.63-3.13 (2.94±0.075) 5
ProL	1.31-1.88 (1.54±0.073) 7	1.38-1.81 (1.53±0.072) 5
PyL	1.44-1.88 (1.65±0.053) 8	1.57-1.88 (1.71±0.057) 5
PTL	1.31-1.63 (1.54±0.033) 8	1.51-1.63 (1.55±0.021) 5
MSTL	1.44-1.82 (1.64±0.044) 8	1.44-1.69 (1.57±0.047) 5
MTTL	1.82-2.32 (2.06±0.056) 8	1.69-2.20 (2.03±0.081) 5

Measurements in mm. APW — width between anterior angles of pronotum; PPW — width between posterior angles of pronotum; PL — length of pronotum in middle; EL — length of elytron along sutural line; EW — maximal width between outer margins of elytra; ProW — maximal width of propygidium; ProL — length of propygidium in mesial; PyL — length of pygidium; PTL — length of protibia; MSTL — length of mesotibia; MTTL — length of metatibia. The table reads: range (mean±standard error) number of specimens measured.

pronotum and apex of pygidium) 6.0-8.1 mm, PEL (=length between anterior angles of pronotum and apices of elytra) 5.3-7.0 mm. Width, 4.6-5.5 mm. Biometric data are given in Table 1. Body oblong, oval, black and shining.

Frontal stria of head (Fig. 4-A, B, C) deep, complete (sometimes interrupted at anterior angle) and usually straight at middle.

Marginal pronotal stria (Fig. 3-A, B) interrupted behind head, but complete laterally. Outer lateral stria abbreviated at basal sixth, hooked at basal end, sometimes the apical end connected with inner lateral stria (in this case, inner one frequently interrupted behind anterior angle of pronotum (Fig. 3-B)). Inner lateral stria often complete laterally and anteriorly, sometimes interrupted behind anterior angle of pronotum, and strongly bent behind the eyes. Disk sparsely covered with microscopic punctures, and with a longitudinal puncture in antescutellar area.

Epipleural fossette sparsely and finely punctate. Marginal elytral stria absent. Marginal epipleural stria complete, well impressed, with large punctures. Elytra (Fig. 3-A) with a slight subapical impression. External subhumeral and 1st-3rd dorsal striae complete. Internal subhumeral stria absent. Oblique humeral stria represented on basal fourth. Fourth and 5th dorsal and sutural striae present on apical third, 4th usually incomplete and with a short basal rudiment. All striae, except the oblique humeral one, strongly crenated.

Pygidia feebly alutaceous. Propygidium (Fig. 18-A) coarsely and rather sparsely punctate and scattered throughout with minute punctures, the punctures becoming finer along the margin. Propygidal disk with a strong and broad depression posteriorly on each side. Pygidium (Fig. 18-B) coarsely and densely punctate, the punctures deep in middle and fine along basal margin.

Prosternal lobe rounded at apex, coarsely punctate laterally, its marginal stria

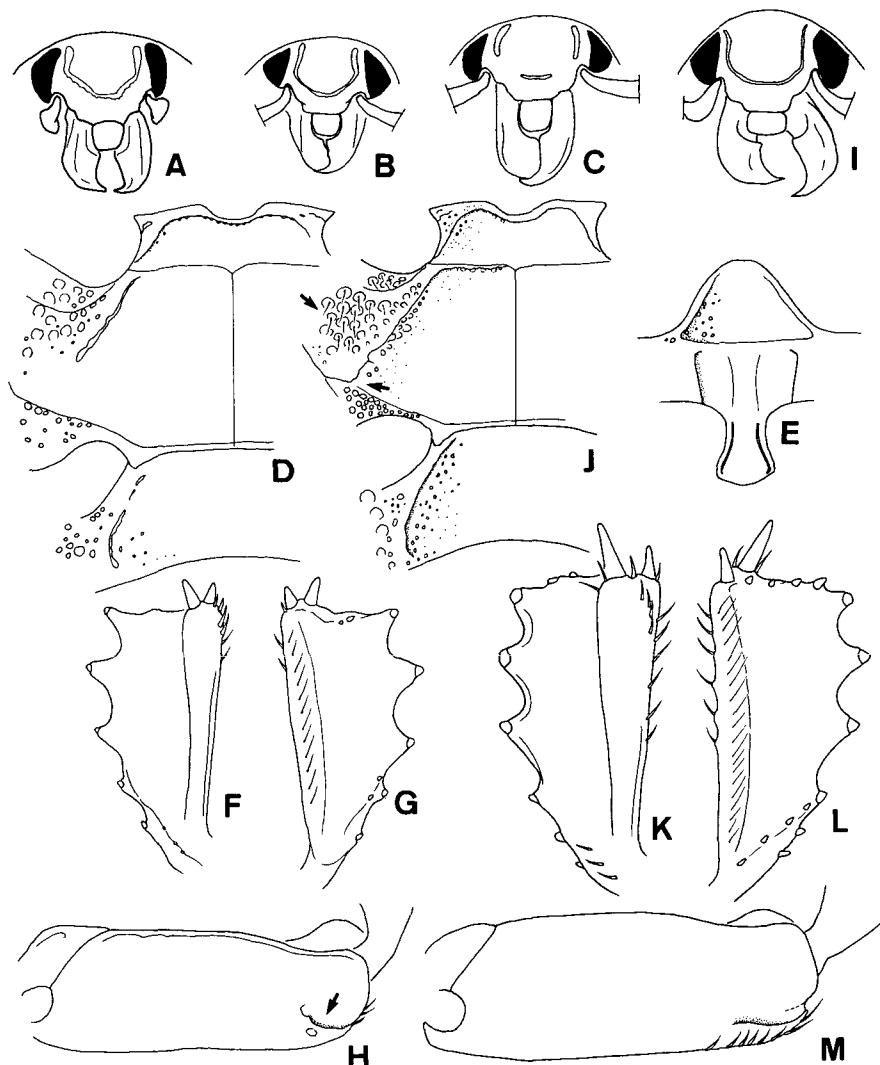


Fig. 4. A-H: *M. (P.) boleti* (Lewis). I-M: *M. (P.) cadavericola* (Bickhardt). A-C, I: Head, frontal view. D, J: Meso-, metasternum and 1st abdominal sternum. E: Prosternal lobe and keel. F, K: Left protibia, dorsal view. G, L: ditto, ventral view. H, M: Left profemur, ventral view.

interrupted at middle. Prosternal keel (Fig. 4-E) with carinal striae between coxae.

Anterior margin of mesosternum feebly emarginate, its marginal stria complete and strongly crenate. Meso-metasternal suture (Fig. 4-D) complete, obtusely angulate at middle. Lateral metasternal stria extending obliquely and posteriorly. Oblique stria extending inwardly from the middle of the metasternal-metepisternal suture. Intercoxal disk of metasternum sparsely clothed with microscopic punctures. Lateral disk of metasternum coarsely and shallowly punctate, and scattered with fine punctures throughout, without hair.

Intercoxal disk of 1st abdominal sternum (Fig. 4-D) striate on each side on

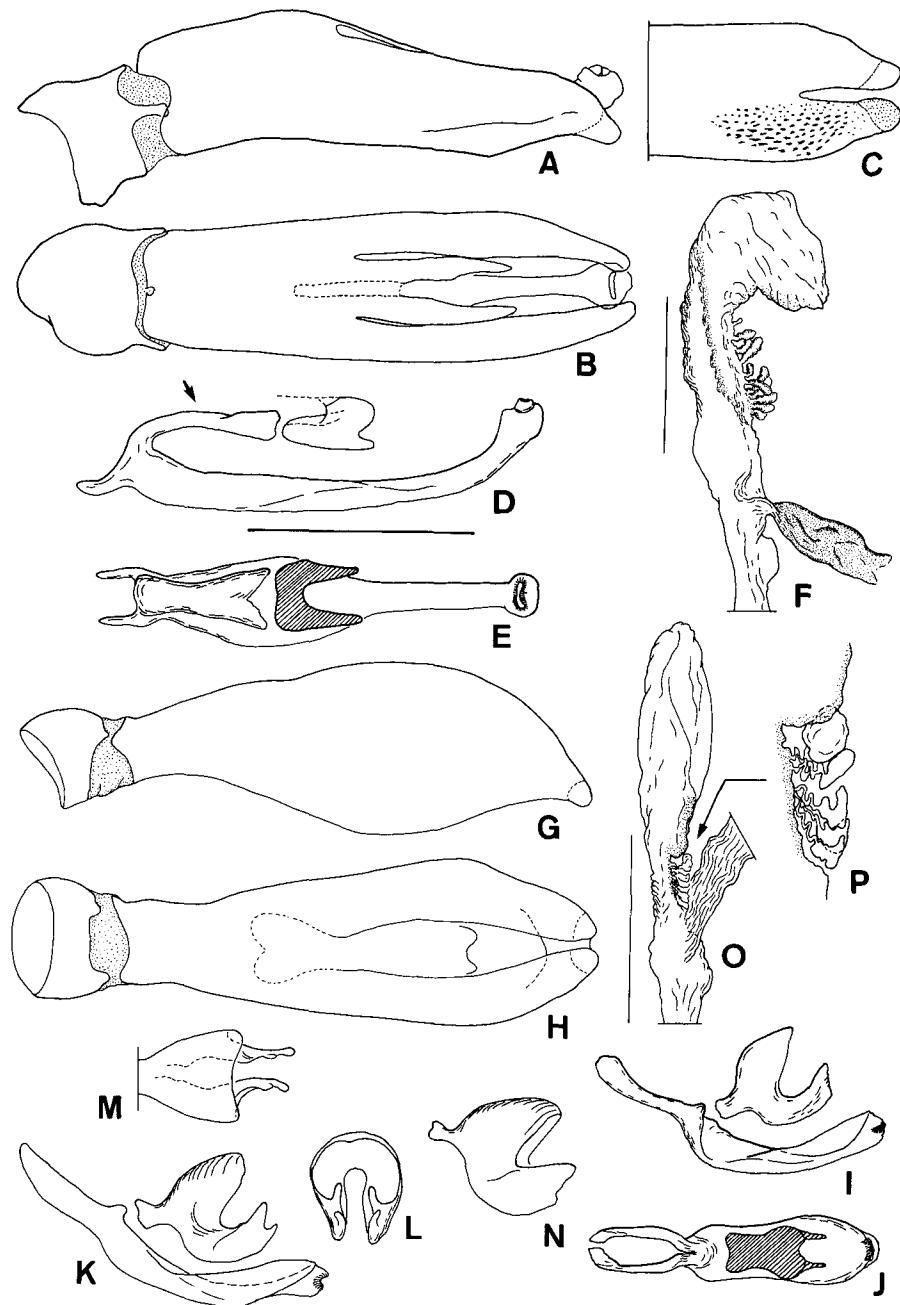


Fig. 5. A-F: *M. (P.) boleti* (Lewis) [Nikkō, Honshū]. G-P: *M. (P.) cadavericola* (Bickhardt) [Owari, Honshū]. A, G: Aedeagus of male genitalia, lateral view. B, H: ditto, dorsal view. C: Apex of aedeagus, ventral view. D, I, K: Median lobe, lateral view. E, J: ditto, dorsal view. L: Median armature, caudal view. M: ditto, dorsal view. N: ditto, lateral view. F, O, P: Spermatheca and bursa copulatrix, lateral view (right side). Scale: 1.0 mm.

apical two-thirds.

Protibia (Fig. 4-F, G) with 5-6 denticles on outer margin and 2 denticles on apical margin of ventral face. Profemur (Fig. 4-H) with posterior marginal stria on apical fifth.

Male genitalia (Fig. 5-A, B, C, D, E) : aedeagus with a ring-shaped articulated basal piece. Median lobe slender, with short paired posterior apodemes. Median armature small (Fig. 5-D).

Female genitalia (Fig. 5-F) : spermatheca consisting of 11 receptacles.

Specimens examined, 9♂, 4♀ and 25 exs. Hokkaidō — 2 exs., Nopporo, Ebetsu, 11/viii/1973, Y. Sakamoto leg. (Historical Museum of Hokkaido, coll.); 2 exs., Fukushima, Osima, 11/viii/1976, M. Kiuchi leg. Honshū —〈Aomori-ken〉 1♂ and 1 ex., Shimokita, Yunomata, 2/viii/1956, S. Ashida leg. ; 1 ex., Towada, 3/viii/1954, A. Abe leg. 〈Miyagi-ken〉 1♂ and 1♀, Natori, Akiho, 24/vi/1951, K. Nagayama leg. 〈Fukushima-ken〉 4 exs., Nakanomoriyama, Tsushima, Namie, Futaba, 14/ix/1974, K. Tazoe leg. 〈Tochigi-ken〉 1♂ and 2 exs., Nikkō, Chūzenji, 22/vii/1972, T. Nakane leg. 〈Tōkyō-to〉 1 ex., Takao-san, Tama, 5/viii/1961, S. Kondō leg. 〈Kanagawa-ken〉 2♀, Hakone, 2/viii/1970, K. Masumoto leg. ; 1♀, Mt. Tanzawa, 5/viii/1983, M. Nishikawa leg. ; 1 ex., Dodaira, Eastern Tanzawa, 22/viii/1982, M. Nishikawa leg. 〈Nagano-ken〉 2♂ and 1 ex., Kiso, Komagatake, 4-5/viii/1946, S. Ōsawa leg. 〈Nara-ken〉 1♂ and 5 exs., Mt. Yoshino, 4/ix/1952, K. Sakaguchi and K. Sawada leg. 〈Ōsaka-fu〉 1 ex., Nakanotani, Mt. Iwawaki, 17/viii/1948, S. Ueno leg. 〈Fukui-ken〉 1♂, Karikomi-ike, Koike, Ōno City, 2/vii/1978, M. Saitō leg. 〈Hiroshima-ken〉 1 ex., Hikimi, Yoshiwamura, 7/viii/1983, T. Itō leg. Shikoku — 〈Tokushima-ken〉 1 ex., Higashi-iyayama, 8/viii/1961, M. Hirai leg. Kyūshū — 〈Miyazaki-ken〉 1♂, Takachi-honomine, 21/vii/1951, F. Takahashi leg. 〈Kagoshima-ken〉 1♂, Kurino, Kirishima, 29/v/1983, S. Daidō leg. ; 2 exs., ditto, 31/viii/1985, M. Ōhara leg.

Distribution (Fig. 20). Japan (Hokkaidō, Honshū, Shikoku, Kyūshū), Kuril Isls. (Dr. Kryzhanovskij, pers. com.); Taiwan. Newly recorded from Hokkaidō and Kuril Isls.

Remarks. This species is easily distinguished from the other Japanese *Margarinotus* species by the strongly bent inner pronotal lateral stria (Fig. 3-A). *M. boleti* occurs commonly on fungi or in decaying trees.

Weymarni-group

2. <i>cadavericola</i> (Bickhardt)	5. <i>reichardti</i> Kryzhanovskij
3. <i>agnatus</i> (Lewis)	6. <i>striola</i> (C.R. Shalberg)
4. <i>weymarni</i> Wenzel	7. <i>yezoensis</i> M. Ōhara, sp. nov.

Median lobe of the male genitalia expanded on apical half, spoon-like ; posterior apodeme short and stout ; shape of median armature various. Apex of lobe feebly bent backward, but not trilobate in dorsal view.

Judging from illustrations given by authors (see Appendix), the following species seem to be placed in this group as understood above : *brunneus* (Fabricius, 1775), *distinctus* (Erichson, 1834), *fractifrons* (Casey, 1893), *multidens* (Schmidt, 1889), *rectus* (Casey, 1916), and *tristriatus* Wenzel, 1944. This group is distributed in the Palaearctic and Nearctic Regions.

2. *Margarinotus (Ptomister) cadavericola* (Bickhardt, 1920)

Hister cadavericola Bickhardt, 1920: 99 [China : Fo-ken] ; Reichardt, 1930b: 46 [noted] ;

Reichardt and Kryzhanovskij, 1964: 172 [China: Kuatun].

Margarinotus cadavericola: Wenzel, 1944: 126, 132 [listed, key].

Margarinotus (Margarinotus) cadavericola: Kryzhanovskij and Reichardt, 1976: 339, f. 645, 657 [key, noted, figured].

Margarinotus (Ptomister) cadavericola: Mazur, 1984b: 165 [catalogued].

Hister ussuriensis Reichardt, 1930: 285, pl. 8, f. 1 [key, figured]; Kryzhanovskij and Reichardt, 1976: 339.

Margarinotus ussuriensis: Wenzel, 1944: 126, 132, pl. 8, f. 1 [key, figured].

Description. ♂♀. Body length, PPL 5.2-7.2 mm, PEL 4.7-6.5 mm. Width, 4.1-5.7 mm. Biometric data are given in Table 2. Body oblong-oval, black and shining.

Frontal stria of head (Fig. 4-I) complete and crenulate.

Marginal pronotal stria (Fig. 3-C, D) interrupted behind head and complete laterally. Outer lateral stria complete and feebly crenulate. Inner lateral stria complete, straight anteriorly, and strongly crenate. Disk of pronotum sparsely covered with microscopic punctures, the punctures being dense and coarse between two lateral striae, and with a longitudinal puncture in antescutellar area.

Elytra (Fig. 3-C) with a feeble subapical impression, and microscopically punctulate throughout. Epipleural fossette densely and coarsely punctate. Marginal elytral stria absent. Marginal epipleural stria complete. External subhumeral stria complete. Internal subhumeral stria represented on apical fourth by a row of moderate-sized punctures or absent. Oblique humeral stria distinctly present on basal third. First-4th dorsal striae complete, but 4th stria shortly abbreviated at base. Fifth dorsal stria present on apical fourth, and its basal rudiment represented by a short arc which consists of a few (from 1 to 5) punctures or sometimes absent. Sutural stria present on apical third, sometimes extending to middle. Sometimes dorsal striae connected with neighboring striae (Fig. 3-E, F).

Pygidia (Fig. 18-C, D) alutaceous. Propygidium densely covered with ocelloid punctures, and minutely punctulate among ocelloid ones. Disk of propygidium with a depression posteriorly on each side. Punctuation of pygidium similar to that of propygidium, but denser than the latter.

Prosternal lobe broadly truncate at apex, its marginal stria interrupted at

Table 2. Biometric data for *Margarinotus cadavericola* (Bickhardt).

Part measured	Male	Female
APW	1.56-2.01 (1.79±0.049) 10	1.88-2.13 (2.00±0.043) 6
PPW	3.51-4.83 (4.14±0.131) 10	4.39-4.89 (4.60±0.069) 6
PL	1.81-3.07 (2.18±0.115) 10	2.07-2.51 (2.32±0.061) 6
EL	2.51-3.39 (2.95±0.092) 10	3.14-3.58 (3.35±0.073) 6
EW	4.14-5.65 (4.87±0.162) 10	5.08-5.65 (5.36±0.074) 6
ProW	2.51-3.45 (2.97±0.098) 10	3.01-3.45 (3.25±0.054) 6
ProL	1.13-1.94 (1.41±0.084) 10	1.38-1.76 (1.52±0.048) 6
PyL	1.32-1.88 (1.57±0.071) 10	1.69-2.01 (1.88±0.039) 6
PTL	1.32-1.82 (1.55±0.054) 10	1.51-1.82 (1.60±0.044) 6
MSTL	1.38-1.88 (1.65±0.053) 10	1.57-1.88 (1.69±0.042) 6
MTTL	1.69-2.51 (2.08±0.084) 10	2.07-2.45 (2.22±0.048) 6

middle. Prosternal keel without carinal stria.

Anterior margin of mesosternum (Fig. 4-J) strongly emarginate at middle, its marginal stria complete and crenate. Disk of mesosternum sparsely clothed with microscopic punctures, the punctures coarser laterally. Meso-metasternal suture complete, obtusely angulate at middle. Lateral stria of metasternum extending posteriorly and obliquely, and united with the oblique stria which inwardly extends from the middle of metasternal-metepisternal suture. Intercoxal disk of metasternum sparsely clothed with microscopic punctures, the punctures becoming coarser laterally. Lateral disk of metasternum densely covered with large and shallow punctures, and with long hairs.

Intercoxal disk of 1st abdominal sternum (Fig. 4-J) striate on each side, and coarsely punctate laterally.

Protibia (Fig. 4-K, L) with 6 denticles on outer margin and 2-4 fine denticles on apical margin of ventral face. Profemur (Fig. 4-M) with posterior marginal stria on apical fourth.

Male genitalia : as illustrated in Fig. 5-G, H, I, J, K, L, M, N.

Female genitalia : as shown in Fig. 5-O, P.

Specimens examined, 11♂, 7♀ and 26 exs. Hokkaidō — 2♂ and 1♀, Sapporo, 3, 20/ix/1985, 20/ix/1986, M. Ôhara leg.; 23 exs. Toyotaki, Sapporo, 3, 12/ix/1987, M. Ôhara leg.; 2♂, Miyatsu, Okushiri Is., 3/ix/1986, Y. Kusui leg. Honshū — (Aichi-ken) 1♂, Higashiyama, Nagoya, 18/ix/1948, T. Nakane leg.; 1 ex., ditto, 20/v/1948, T. Nakane leg.; 5♂, 1♀ and 1 ex., ditto, vi/1948, S. Ôsawa leg.; 1 ex., ditto, 27/vi/1948, S. Ôsawa leg.; 1♀, Nagoya, Owari, 19/viii/1941, S. Ôsawa leg.; 1♀, Mt. Kongō, Owari, 2/vii/1941, S. Eda leg. (Nara-ken) 2♀, Mt. Kasuga, 29/ix/1946, F. Takahashi leg.; 1♀, ditto, 22, 23/ix/1968, S. Kondō leg. Kyūshū — (Saga-ken) 1♂, Tashiro, no date, Y. Miyake leg.

Distribution (Fig. 20). Japan (Hokkaidō, Honshū, Kyūshū); China; USSR (Primorskij Kray, Kuril Isls.). Newly recorded from Japan.

Remarks. This species is closely related to *M. agnatus*, *M. weymarni*, *M. striola* and *M. reichardti*, but it is distinguished from them by the characters given in the key. These five species are difficult to distinguish in their external characters. Japanese records of these species may probably contain errors and confusions and are in need of reexamination.

In Hokkaidō this species appears in early autumn.

3. *Margarinotus (Ptomister) agnatus* (Lewis, 1884)

Hister agnatus Lewis, 1884: 135 [Japan: Nikkō].

Hister (*Hister*) *agnatus* : Bickhardt, 1910: 40 [catalogued]; Bickhardt, 1917: 178 [catalogued]; Kamiya and Takagi, 1938: 30 [listed].

Margarinotus agnatus : Wenzel, 1971: 216.

Margarinotus (Margarinotus) agnatus : Kryzhanovskij and Reichardt, 1976: 338, f. 644 (not 647) [key, noted].

Margarinotus (Ptomister) agnatus : Hisamatsu and Kusui, 1984: 16 [noted]; Mazur, 1984b: 164 [catalogued]; Hisamatsu, 1985: 227, pl. 41, f. 10 [key, photo, noted].

Margarinotus balloui Wenzel, 1944: 129, pl. 6, f. 2 [Japan: Nikkō].

Margarinotus balloui [sic] : Kryzhanovskij and Reichardt, 1976: 338.

Hister balloui : Mazur, 1972: 140.

Description. ♂♀. Body length, PPL 5.4-8.3 mm, PEL 4.4-6.9 mm. Width, 4.2-5.3 mm. Biometric data are given in Table 3. Body oblong-oval, black and shining.

Table 3. Biometric data for *Margarinotus agnatus* (Lewis).

Part measured	Male	Female
APW	1.57-1.88 (1.73±0.023) 12	1.82-2.01 (1.89±0.020) 12
PPW	3.64-4.08 (3.85±0.039) 12	3.89-4.52 (4.25±0.047) 12
PL	1.88-2.07 (1.95±0.023) 12	1.94-2.38 (2.19±0.033) 12
EL	2.45-3.01 (2.77±0.046) 12	2.95-3.32 (3.16±0.033) 12
EW	4.20-4.89 (4.49±0.053) 12	4.71-5.27 (5.02±0.049) 12
ProW	2.38-3.07 (2.83±0.048) 12	3.01-3.45 (3.23±0.036) 12
ProL	1.19-1.38 (1.28±0.020) 12	1.19-1.63 (1.41±0.035) 12
PyL	1.44-1.63 (1.55±0.023) 12	1.63-2.01 (1.80±0.029) 12
PTL	1.19-1.51 (1.40±0.022) 12	1.32-1.57 (1.50±0.022) 12
MSTL	1.38-1.63 (1.54±0.023) 12	1.44-1.76 (1.60±0.025) 12
MTTL	1.88-2.20 (2.01±0.026) 12	1.94-2.51 (2.14±0.042) 12

Frontal stria of head (Fig. 6-I, J, K) complete (sometimes interrupted at middle), usually feebly and inwardly bent at middle.

Marginal pronotal stria (Fig. 6-A, F, G, H) interrupted behind head and complete laterally. Outer lateral stria complete or interrupted, feebly crenulate and hooked at apical end. Inner lateral stria complete, straight anteriorly, and strongly crenated. Disk of pronotum sparsely and finely punctate, the punctures becoming denser laterally. Densely covered with large punctures between outer lateral stria and inner one, but the punctures variable, sometimes quite reduced. Not punctate between margin of pronotum and outer lateral stria. Usually with a longitudinal puncture in antescutellar area.

Elytra (Fig. 6-A, B, C, D, E) with a feeble subapical impression, and microscopically punctulate throughout. Epipleural fossette coarsely punctate. Marginal elytral stria absent. Marginal epipleural stria complete. External subhumeral stria complete. Internal subhumeral stria sometimes represented on apical fourth by a row of punctures. First-4th dorsal striae usually complete, but 4th slightly shortened at the base. Fifth dorsal stria present on apical third, and its basal rudiment represented by a short arc. Oblique humeral stria present on basal third. Sutural stria present on apical half.

Pygidia (Fig. 18-E, F) micro-alutaceous. Propygidium with an indistinct impression on each side, densely covered with ocelloid punctures, and with a few fine punctures intermingled among ocelloid ones, the punctures becoming finer at posterior margin. Pygidial punctuation similar to propygidial one, but rather dense.

Prosternal lobe rounded at apex, its marginal stria broadly interrupted at middle, alutaceous in ground sculpture, and coarsely punctate laterally. Prosternal keel rather broad, without carinal stria.

Anterior margin of mesosternum (Fig. 7-A) deeply emarginate at middle, its marginal stria complete. Disk of mesosternum sparsely clothed with microscopic punctures. Meso-metasternal suture complete, angulate at middle. Lateral stria of metasternum extending obliquely and posteriorly, and united with the oblique stria which extends inwardly from the middle of the metasternal-metepipleural suture. Lateral disk of metasternum densely covered with large, round and shallow

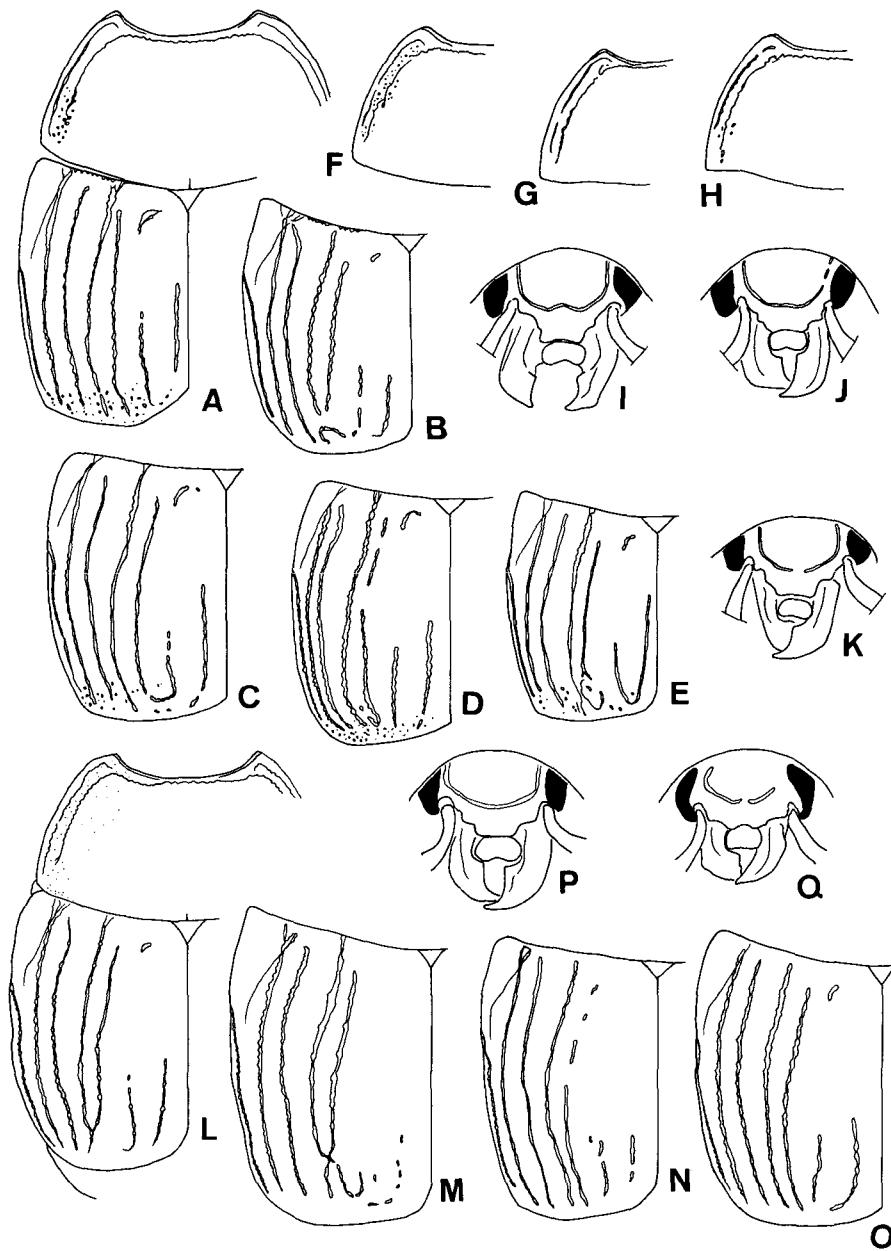


Fig. 6. A-K: *M. (P.) agnatus* (Lewis). L-O: *M. (P.) weymanni* Wenzel. A, L: Pronotum and left elytron. F-H: Pronotum. B-E, M-O: Left elytron. I-K, P, Q: Head, frontal view.

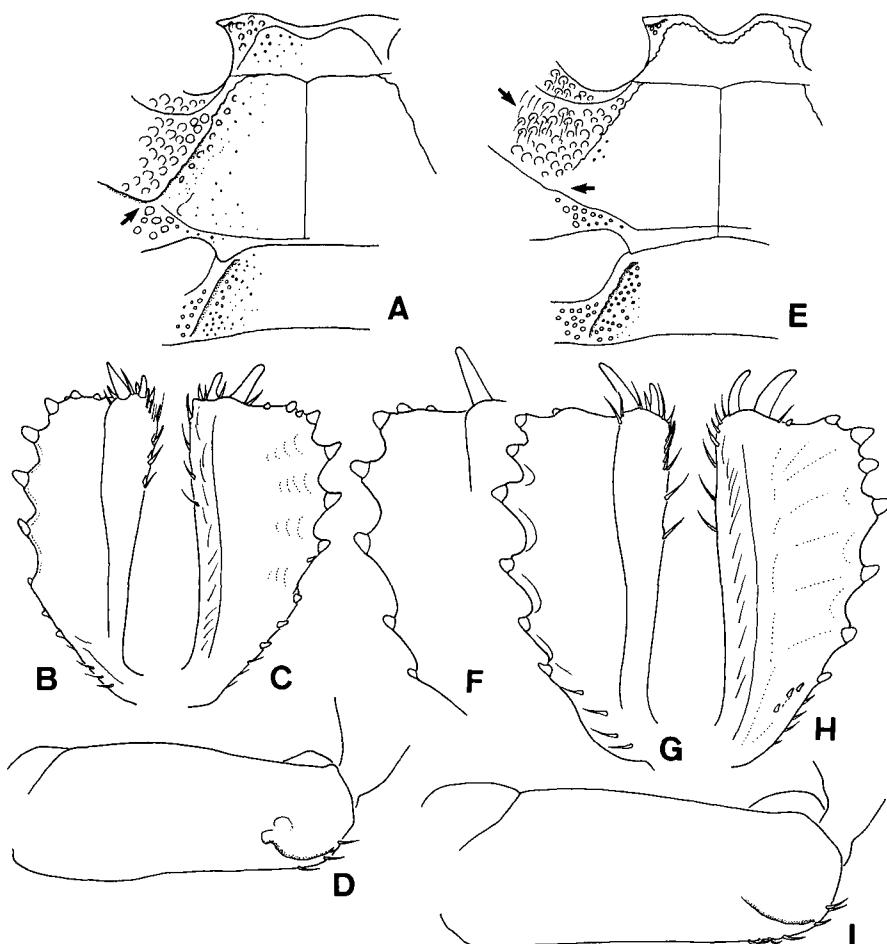


Fig. 7. A-D: *M. (P.) agnatus* (Lewis). E-I: *M. (P.) weymarni* Wenzel. A, E: Meso-, metasternum and 1st abdominal sternum. B, F, G: Left protibia, dorsal view. C, H: ditto, ventral view. D, I: Left profemur, ventral view.

punctures, without hair.

Intercoxal disk of 1st abdominal sternum (Fig. 7-A) striate on each side, and moderately punctate laterally.

Protibia (Fig. 7-B, C) with 5-7 denticles on outer margin, and 2 or 3 fine denticles on apical margin. Profemur (Fig. 7-I) with posterior marginal stria very short, present only apically.

Male genitalia: as shown in Fig. 8-A, B, C.

Female genitalia: as in Fig. 8-D.

Specimens examined, 97♂, 75♀ and 114 exs. Hokkaidō — 1 ex., Akaiwa, Otaru, 7/viii/1986, A. Iwasaki leg.; 7♂, 7♀, and 62 exs., Nopporo, 14, 17, 27/vi/1986, 16, 18, 22, 29/v, 5, 7, 12, 16, 19, 20, 23, 26/vi, 3, 4/vii, 20/viii/1987, M. Ôhara leg.; 1 ex., Atsubetsu, Sapporo, 8/v/1987, M. Ôhara leg.; 2 exs., Jôzankei, Toyotaki, 10/v, 3/vi/1987, M. Ôhara leg.; 1 ex., Mt. Hakken, Sapporo, 13/vi/1977, N. Nishikawa leg.; 2 exs., Heiwa, Nishiku, Sapporo, 12/viii/1987, M. Ôhara leg.; 1 ex., Oasa,

Sapporo, 12/ix/1987, M. Ôhara leg. ; 1 ex., Sapporo, 16/v/1974, M. Kiuchi leg. ; 8 exs., Memuro, 24/vi/1986, M. Ôhara leg. ; 1 ex., Maruseppu, Kitami, 7/vii/1987, M. Ôhara leg. ; 1♂, Okushiri Is., Miyatsu, 3/ix/1986, Y. Kusui leg. Honshû—*<Fukushima-ken>* 2 exs., Bunadaira, Hinoemata, 5/vii/1987, K. Haga leg. *<Tochigi-ken>* 1 ex., Nikkô, 12/v/1985, M. Kiuchi leg. *<Tôkyô-to>* 2♀, Takao-san, 30/v/1974, M. Ishida leg. ; 1 ex., ditto, 4/vii/1971, K. Masumoto leg. ; 1 ex., Kagenobu, 30/v/1970, M. Ishida leg. ; 1 ex., Okutama, Odake, 7/vi/1980, K. Haga leg. *<Kanagawa-ken>* 1 ex., Ôyama, 23/v/1969, M. Ishida leg. *<Yamanashi-ken>* 1 ex., Yatsugatake, 16/vii/1973, M. Ishida leg. ; 13 exs., Mt. Daibosatsu, 3, 4/vii/1976, S. Kondô leg. ; 1 ex., Hikawa-rindô, Daibosatsu, 29/vi/1980, K. Haga leg. *<Shizuoka-ken>* 82♂, 47♀, Nagatsuro, Itani, 6/v/1985, A. Yamamoto leg. *<Niigata-ken>* 1 ex., Mt. Myôken, Sado, 21/viii/1985, K. Baba leg. ; 1 ex., Shinhosan, Asahimura, Northern Echigo, 1/vi/1987, K. Baba leg. *<Nagano-ken>* 1 ex., Mt. Jônen, 900 m, 2/vi/1960, K. Kamimura leg. ; 2♀ and 1 ex., Kamikôchi, 21-28/vii/1974, S. Ôsawa leg. ; 1 ex., Jigokudani, Yamanouchi, 29/iv/1983, M. Kiuchi leg. *<Aichi-ken>* 1♀, Higashiyama, Nagoya, vi/1948, S. Ôsawa leg. *<Kyôto-fu>* 1♀, 1 ex., Mizuho, Tozu-river, 10/v/1986, S. Nomura leg. *<Hyôgo-ken>* 1♀, Kôya-ike, 25/x/1941, K. Sakaguchi leg. ; 3 exs., Taizan-ji, Kôbe, 5/v/1987, T. Itô leg. *<Tottori-ken>* 1 ex., Yonago, 12/x/1987, M. Ôhara leg. Shikoku—*<Ehime-ken>* 3♂ and 1♀, Omogo, 30/vii/1986, T. Tanabe leg. Kyûshû—*<Miyazaki-ken>* 1♂, Takachihonomine, 29/v/1983, M. Ôhara leg. ; 4♂ and 11♀, ditto, 10/viii/1984, M. Ôhara leg. ; 1 ex., ditto, 29/v/1983, S. Daidô leg. ; 2 exs., ditto, 19/vii/1983, S. Sameshima leg. *<Kagoshima-ken>* 1 ex., Kirishima, 19/vii/1984, T. Kinoda leg.

Distribution (Fig. 20). Japan (Hokkaidô, Honshû, Shikoku, Kyûshû); Himalaya; North India. New to Hokkaidô.

Remarks. This species occurs commonly in animal carrion. Hisamatsu (1985) reported that this species is distributed in western Japan, but I found it from Hokkaidô and examined many specimens from eastern Japan.

The male genitalia shown by Kryzhanovskij and Reichardt (1976) as of this species actually belong to *weymarni*.

4. *Margarinotus (Ptomister) weymarni* Wenzel, 1944

Margarinotus weymarni Wenzel, 1944: 127, pl. 4, f. 2, pl. 6, f. 3 [North Manchuria: Ertaohotze, Kirin, and Japan: Masike, Nikkô] : Wenzel, 1971: 216; Nakane, 1963: 70, pl. 35, f. 19 [photo, noted].

Margarinotus (Margarinotus) weymarni: Kryzhanovskij and Reichardt, 1976: 338, f. 647 (not 644), 666 [noted].

Table 4. Biometric data for *Margarinotus weymarni* Wenzel.

Part measured	Male	Female
APW	1.57-2.01 (1.83±0.025) 20	1.82-2.20 (1.98±0.029) 16
PPW	3.07-4.58 (3.99±0.075) 20	3.76-4.96 (4.41±0.079) 16
PL	1.76-2.51 (2.08±0.043) 20	1.82-2.70 (2.22±0.053) 16
EL	2.32-3.51 (3.02±0.058) 20	3.01-4.02 (3.46±0.065) 16
EW	3.70-5.27 (4.65±0.083) 20	4.45-5.77 (5.19±0.083) 16
ProW	2.32-3.39 (3.00±0.065) 20	3.01-3.76 (3.34±0.053) 16
ProL	0.94-1.51 (1.27±0.030) 20	1.19-1.63 (1.38±0.030) 16
PyL	1.19-1.88 (1.62±0.034) 20	1.63-2.13 (1.90±0.034) 16
PTL	1.13-1.63 (1.50±0.030) 20	1.44-1.88 (1.61±0.029) 16
MSTL	1.32-1.88 (1.60±0.043) 18	1.38-2.01 (1.66±0.041) 16
MTTL	1.57-2.32 (1.99±0.038) 20	1.88-2.57 (2.17±0.044) 16

Margarinotus (Plomister) weymarni : Hisamatsu and Kusui, 1984 : 16 [listed, noted] ; Mazur, 1984b : 169 [catalogued] ; Hisamatsu, 1985 : 227, pl. 4, f. 10 [key, photo].

Hister weymarni : Mazur, 1972 : 140.

Description. ♂♀. Body length, PPL 5.0–7.9 mm, PEL 4.3–6.5 mm. Width, 3.7–5.8 mm. Biometric data are given in Table 4. Body oblong-oval, black and shining.

Frontal stria of head (Fig. 6-P, Q) complete and crenulate.

Marginal pronotal stria (Fig. 6-L) interrupted behind head, complete laterally. Outer lateral stria complete. Inner lateral stria complete and strongly crenate, sometimes abbreviated at basal fourth. Inner lateral stria not ending beyond the basal end of outer one. Disk of pronotum sparsely covered with microscopic punctures, the punctures being coarse between two lateral striae, and usually with a longitudinal puncture at antescutellar area.

Elytra (Fig. 6-L, M, N, O) with a feeble subapical impression. Epipleural fossette densely and coarsely punctate. Marginal elytral stria absent. Marginal epipleural stria complete. External subhumeral stria complete. Internal subhumeral stria indistinct, represented on apical third by a row of punctures. Oblique humeral stria present on basal third. First–4th dorsal striae complete but 4th stria shortly abbreviated at base. Fifth dorsal stria usually present on apical third or a little less, its basal rudiment represented by an arc. Sutural stria usually present on apical third, sometimes extending to middle.

Pygidia (Fig. 18-G, H) alutaceous. Propyggidium densely covered with large and ocelloid punctures, and minute punctures intermingled among the punctures. Disk of propyggidium depressed near each posterior angle. Punctuation of pygidium similar to that of propyggidium, which is somewhat denser.

Prosternal lobe rounded at apex, its marginal stria complete, or sometimes interrupted at middle. Disk of prosternal lobe alutaceous, and coarsely punctate laterally. Prosternal keel without carinal stria.

Anterior margin of mesosternum (Fig. 7-E) strongly emarginate at middle, its marginal stria complete and crenate. Disk of mesosternum sparsely clothed with microscopic punctures, the punctures dense and coarse laterally. Meso-metasternal suture complete and obtusely angulate at middle. Lateral stria of metasternum extending posteriorly to near, but not united with, the oblique stria which extends inwardly from the middle of metasternal-metepisternal suture. Intercoxal disk of metasternum sparsely clothed with microscopic punctures, the punctures coarse along the oblique stria of metasternum. Lateral disk of metasternum densely covered with round, shallow and large punctures, and with long hairs.

Intercoxal disk of 1st abdominal sternum (Fig. 7-E) striate on each side, and densely and moderately punctate laterally.

Protibia (Fig. 7-F, G, H) with 5–6 denticles on outer margin, and 2 denticles on apical margin. Profemur (Fig. 7-I) with posterior marginal stria short, present apically.

Male genitalia : as in Fig. 8-E, F, G.

Female genitalia : as in Fig. 8-H, I.

Specimens examined, 18♂, 15♀ and 41 exs. Hokkaidō — 1 ex., Otaru, 10/vii/1985, M. Ôhara leg. ; 2 exs. ditto, vii/1985, Y. Kusui leg. ; 2 exs., Zenibaka, Otaru, 19/vi/1979, N. Nishikawa leg. ; 1 ex., Tsukisappu, Sapporo, 26/viii/1986, S. Makino leg. ; 2♂, 4 exs., Sapporo, 7, 16, 23/v, 19/vi/1985, M. Ôhara leg. ; 1 ex. ditto, 16/v/1974, M. Kiuchi leg. ; 3♂, 3♀, 9 exs., Nopporo, 12, 14, 17, 27/vi/

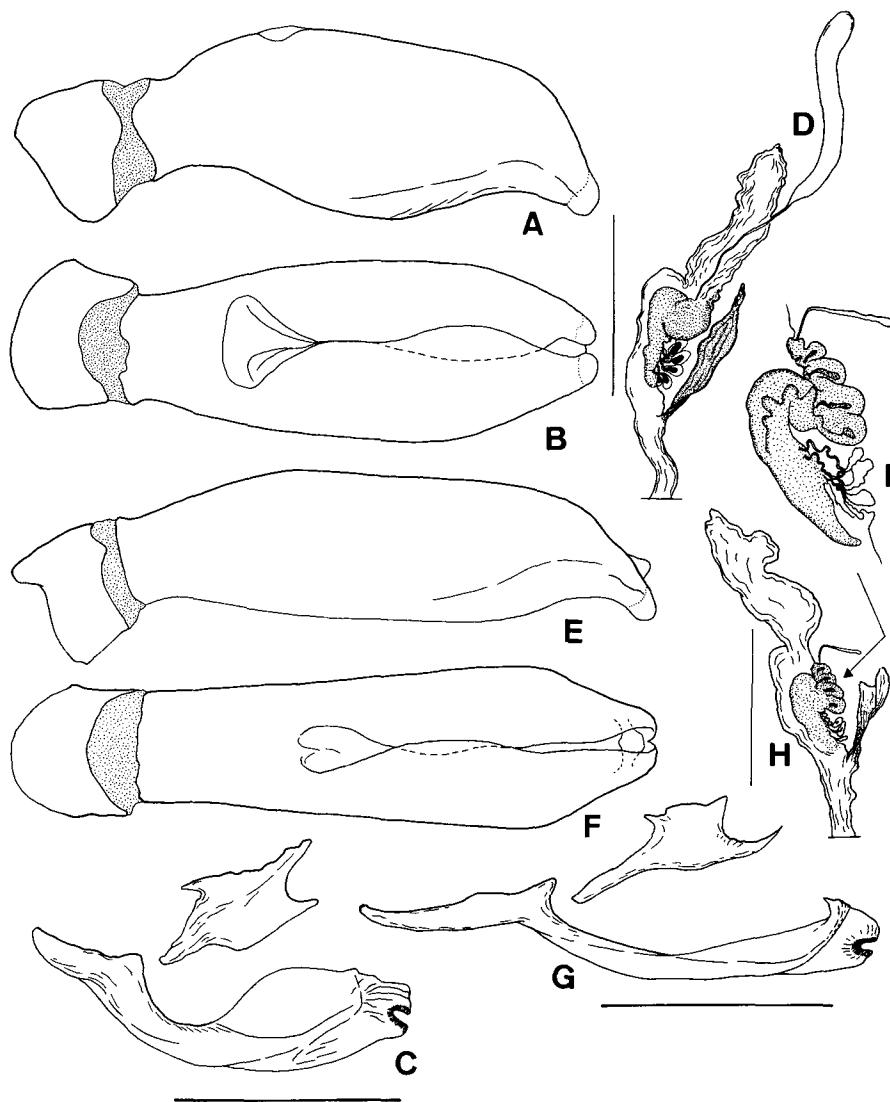


Fig. 8. A-D: *M. (P.) agnatus* (Lewis) [Kagoshima, Kyūshū]. E-H: *M. (P.) weymanni* Wenzel [Sapporo, Hokkaidō]. A, E: Aedeagus of male genitalia, lateral view. B, F: ditto, dorsal view. C, G: Median lobe, lateral view. D, I, H: Spermatheca and bursa copulatrix, lateral view (right side). Scale: 1.0 mm.

1986, 7, 10, 16/v, 5, 23/vi, 3, 28/vii/1987, M. Ôhara leg.; 1 ex., Atsubetu, Sapporo, 8/v/1987, M. Ôhara leg.; 2 exs., Toyotaki, Sapporo, 10/v/1987, M. Ôhara leg.; 1 ex., Mt. Hakken, Sapporo, 13/vi/1977, N. Nishikawa leg.; 4♂, Maruyama, Sapporo, 10/vii/1942, N. Aoyama leg.; 1 ex., ditto, 5/v/1973, S. Kudô leg.; 1♂, 1 ex., Memuro, 24/vi/1986, M. Ôhara leg.; 1♀, Daisetsu, 7/vi/1971, M. Sako leg.; 1 ex., Tomakomai, 30/v/1976, A. Kashizaki leg.; 1♂, ditto, 11/vi/1988, M. Hinakura leg. Honshû—*<Yamagata-ken>* 1♂, 1♀, Sakata, 9, 11/vii/1948, K. Shirahata leg. *<Fukushima-ken>* 1 ex., Wakamatsu, 1/vi/1947, M.W. leg.; 1 ex., Oyama, Wakamatsu, 6/v/1938, Y. Kurosawa leg. *<Ibaraki-ken>* 1♀, Mito, Hitachi, 16/iv/1938, S. Eda leg. *<Chiba-ken>* 1♂, Ôami, 3/iv/1982,

M. Ôhara leg. ; 2 exs., Abiko, Tonegawa-dote, 24/x/1971, M. and K. Ishida leg. <Tôkyô-to> 1 ex., Setagaya, 18/ix/1949, Ôhira leg. <Kanagawa-ken> 1♀, Kannonzaki, 16/x/1965, K. Masumoto leg. ; 1 ex., Kamigô, 6/iv/1974, K. Masumoto leg. <Niigata-ken> 1 ex., Itoigawa, Southern Echigo, 9/x/1956, K. Baba leg. ; 1 ex., Mt. Kinpoku, Sado, 27/v/1936 M. Kaneko leg. ; 1 ex., Senami, Northern Echigo, 1/v/1985, K. Baba leg. <Nagano-ken> 1♂, 1♀, Kamikôchi, 7/viii/1938, K. Sakaguchi leg. ; 1 ex., ditto, 21-28/vii/1947, S. Ôsawa leg. <Gifu-ken> 1♂, Ôgaki, Mino, 10/v/1946, Y. Moriya leg. <Aichi-ken> 1 ex., Obata, Owari, 30/v/1947, S. Ôsawa leg. ; 1♂, 1♀ Shikatsumura, Owari, 12/iv/1946, S. Ôsawa leg. ; 1♀, Higashiyama, Owari, 20/v/1946, T. Nakane leg. <Mie-ken> 1♀, Tsu, Ise, 23/iii/1939, K. Sakaguchi leg. <Ôsaka-fu> 1♂, Ikuecho, 2/vi/1935, no collector's name ; 1 ex., Nishinariku, 15/v/1950, K. Sawada leg. ; 1♀, 2 exs., ditto, 3, 4/viii/1949, K. Sawada leg. <Hyôgo-ken> 1 ex., Mayasan, 18/ix/1937, no collector's name ; 2♀, Motoyamamura, 14/v/1938, 16/x/1941, K. Sakaguchi leg. <Wakayama-ken> 1♂, Kii-tomitagawa, 29/iii/1937, no collector's name ; 1 ex., Minabe, 17/iii/1943, K. Sakaguchi leg. Kyûshû — <Kagoshima-ken> 1♀, Shigeta, Kamitakakumachô, Kanoya, 22/v/1983, Y. Takai leg. USSR, Sakhalin — 1♂, 1♀, Konuma, 3/vii/1946, Y. Nishio leg.

Distribution (Fig. 20). Japan (Hokkaidô, Honshû, Shikoku, Kyûshû) ; Northeast China (Manchuria) ; USSR (Khabarovskij and Primorskij Kray).

5. *Margarinotus (Ptomister) reichardti* Kryzhanovskij, 1976

Margarinotus (Margarinotus) reichardti Kryzhanovskij in Kryzhanovskij and Reichardt, 1976 : 339 [Primorskij Kray].

Margarinotus (Ptomister) reichardti : Mazur, 1984b : 168 [catalogued].

Hister parilis Reichardt in Kryzhanovskij and Reichardt, 1976 : 341 (nom. nud.).

Description. ♂. Body length, PPL 4.9-5.4 mm, PEL 5.5-6.1 mm. Width, 4.3-5.0 mm. Biometric data are given in Table 5. Body oblong-oval, black and shining.

Head (Fig. 9-B) even, sparsely and finely punctate. Frontal stria complete, feebly and inwardly bent or straight at middle. Labrum transverse oblong. Mandible strongly developed and finely punctate.

Marginal pronotal stria (Fig. 9-A) broadly interrupted behind head and complete laterally. Outer pronotal stria complete, but not attaining basal margin, and feebly crenate. Inner lateral stria complete, nearly straight anteriorly and strongly crenate. Disk of pronotum sparsely and finely punctate. A longitudinal puncture

Table 5. Biometric data for *Margarinotus reichardti* Kryzhanovskij.

Part measured	Male
APW	1.57-1.76 (1.66±0.067) 2
PPW	3.64-4.08 (3.86±0.155) 2
PL	1.94-2.45 (2.20±0.018) 2
EL	2.51-2.82 (2.67±0.111) 2
EW	4.33-4.96 (4.64±0.222) 2
ProW	2.57-2.89 (2.73±0.111) 2
ProL	1.25-1.44 (1.35±0.067) 2
PyL	1.32-1.63 (1.47±0.111) 2
PTL	1.32-1.44 (1.38±0.044) 2
MSTL	1.32-1.63 (1.47±0.111) 2
MTTL	1.88-2.01 (1.94±0.044) 2

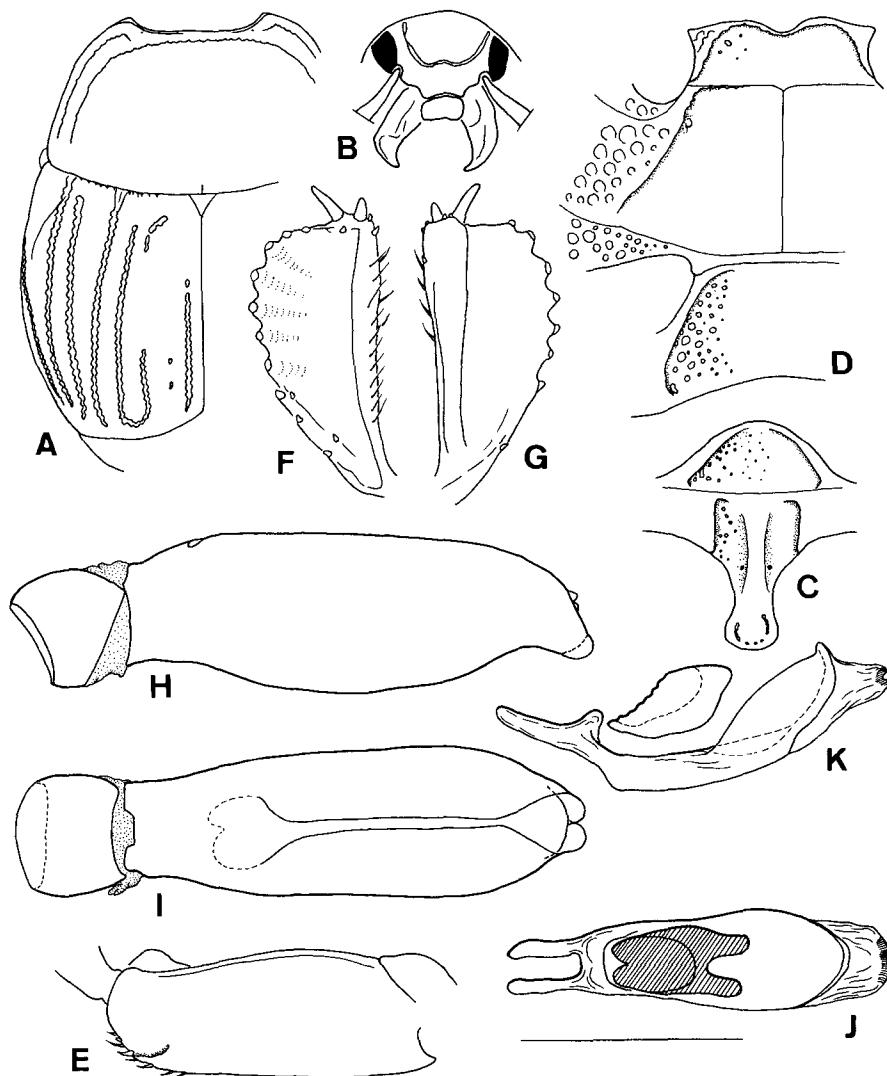


Fig. 9. *M. (P.) reichardti* Kryzhanovskij [Fukushima, Honshū]. A: Pronotum and left elytron. B: Head, frontal view. C: Prosternal lobe and keel. D: Meso-, metasternum and 1st abdominal sternum. E: Right profemur, ventral view. F: Right protibia, ventral view. G: ditto, dorsal view. H: Aedeagus of male genitalia, lateral view. I: ditto, dorsal view. J: Median lobe, dorsal view. K: ditto, lateral view. Scale: 1.0 mm.

present in antescutellar area.

Elytra (Fig. 9-A) with a subapical impression, and sparsely covered with microscopic punctures. Epipleural fossette densely and coarsely punctate. Marginal epipleural stria complete. Marginal elytral stria absent. External subhumeral and 1st-4th dorsal striae complete, but 2nd and 4th slightly shortened at the base. Internal subhumeral stria absent. Fifth dorsal stria present on apical third, its

apical end united with apical end of 4th. Basal rudiment of 5th represented by a short arc on basal third. Sutural stria present on apical two-thirds. Oblique humeral stria present on basal third. All striae (except oblique humeral stria) strongly crenate. Anterior margin of elytra strongly crenate.

Pygidia (Fig. 18-I, J) micro-alutaceous. Propygidium feebly impressed on each side moderately covered with ocelloid puncture, and with a few fine punctures intermingled between ocelloid ones. Pygidial punctuation similar to propygidial one, but rather more densely punctate.

Prosternal lobe (Fig. 9-C) rounded at apex, its marginal stria interrupted at middle, and its disk coarsely punctate, the punctures becoming larger laterally. Prosternal keel with obsolete carinal stria on basal area.

Anterior margin of mesosternum (Fig. 9-D) feebly emarginate at middle, its marginal stria complete. Disk of mesosternum sparsely covered with microscopic punctures throughout, and coarsely punctate along the inner side of marginal stria. Inside apical angles coarsely punctate. Meso-metasternal suture complete, angulate at middle and slightly crenate. Lateral stria of metasternum extending obliquely and posteriorly, and not united with the oblique stria which extends inwardly from the middle of the metasternal-metepipleural suture. Intercoxal disk of metasternum sparsely clothed with microscopic punctures throughout and coarse punctures along the lateral stria. Lateral disk of metasternum densely covered with large, round and shallow punctures, without hair.

Intercoxal disk of 1st abdominal sternum (Fig. 9-D) striate on each side, and coarsely punctate laterally.

Protibia (Fig. 9-F, G) with 7 denticles on lateral margin and 2 denticles on apical margin. Base of denticles weakly projected. Distance between denticles narrow. Profemur (Fig. 9-E) with posterior marginal stria very short, present apically.

Male genitalia : as in Fig. 9-H, I, J. K.

Specimens examined, 2♂. Honshū—(Fukushima-ken) 1♂, Tsuchiyu, Azumayama, Fukushima City, 21/vi/1979, K. Tazoe leg. ; (Iwate-ken) 1♂, Kazubezawa, Shimohei, 20/vi/1983, A. Izumi leg.

Distribution (Fig. 20). Japan (Honshū); USSR (Primorskij and southern Khabarovskij Kray). Newly recorded from Japan.

Remarks. This species is distinguished from *M. weymarni*, *M. agnatus*, *M. striola*, and *M. cadavericola* by the more numerous denticles of protibiae (8-9 denticles) and by the narrower distance between the denticles. In the latter four denticles are 4 to 7 in number (Kryzhanovskij and Reichardt, 1976). For correct identifications, however, the structure of the male genitalia should be examined.

6. *Margarinotus (Ptomister) striola* (C.R. Sahlberg, 1819)

Hister striola C.R. Sahlberg, 1819: 25 [North Finland]; Lewis, 1899: 17; Reitter, 1909: 283; Auzat, 1914: 171, f. 1, 2, 7; Horion, 1949: 358.

Hister (Hister) striola : Bickhardt, 1910: 50 [catalogued]; Bickhardt, 1917: 186 [catalogued]; Bickhardt, 1920: 99.

Margarinotus striola : Wenzel, 1944: 126 [listed].

Margarinotus (Margarinotus) striola : Kryzhanovskij and Reichardt, 1976: 342, f. 676-679, 682 [key, figured].

Margarinotus (Ptomister) striola : Hisamatsu and Kusui, 1984: 17 [noted]; Mazur, 1984b: 168

[catalogued] ; Hisamatsu, 1985 : 227 [key].

Hister eschscholtzii Dejean, 1837 : 140 (nom. nud.).

Hister eschscholtzii : Marseul, 1854 : 282, t. viii, f. 81.

Hister carbonarius : Dejean, 1837 : 140.

Hister japonus Motschulsky, 1860 : 13 ; Marseul, 1862 : 700 ; Lewis, 1884 : 135 [Yokohama, Honshu ; misidentification?] ; Lewis, 1895 : 188.

Margarinotus strioloides Wenzel, 1944 : 129, pl. 7, f. 1 [Tunkun, Sajan Mountains, Siberia] ; Wenzel, 1971 : 216.

Hister strioloides : Mazur, 1970 : 59 ; Mazur, 1972 : 140.

Description. ♂ ♀. Body length, PPL 5.5-8.3 mm, PEL 4.7-6.6 mm. Width, 3.8-4.7 mm. Biometric data are given in Table 6. Body oblong, oval, black and shining.

Frontal stria of head (Fig. 10-C, D) deep, complete and inwardly angulate at middle, sometimes interrupted at middle.

Marginal pronotal stria (Fig. 10-A) broadly interrupted behind head and complete laterally. Outer lateral stria abbreviated basally in various degrees, ending usually at basal two-thirds and sometimes at apical third or near posterior margin of pronotum, but not extending beyond end of inner lateral stria. Inner lateral stria complete and crenulate. Disk of pronotum sparsely covered with microscopic punctures, and usually with a longitudinal large puncture in antescutellar area.

Epipleural fossette of elytra densely and coarsely punctate. Marginal elytral stria absent. Marginal epipleural stria complete. Elytron with two slight depressions at base of 3rd dorsal and oblique humeral striae. External subhumeral stria complete. Internal subhumeral stria (Fig. 10-A) absent or obscurely indicated on apical third. First-3rd dorsal striae complete. Fourth dorsal stria variously abbreviated on basal sixth to third. Fifth dorsal stria present on apical third. Sutural stria present on apical half, sometimes on apical third. All striae, except the oblique humeral one, feebly crenulate.

Pygidia (Fig. 19-A, B) alutaceous. Propygidium with an indistinct depression at each side, densely covered with coarse punctures and minute punctures intermingled. Punctuation of pygidium similar to propygidial one.

Prosternal lobe truncate at apex, sparsely and moderately punctate, its marginal

Table 6. Biometric data for *Margarinotus striola striola* (C.R. Shalberg).

Part measured	Male	Female
APW	1.57-1.88 (1.72±0.022) 19	1.69-2.01 (1.88±0.022) 13
PPW	3.26-4.14 (3.81±0.057) 19	3.70-4.45 (4.23±0.055) 13
PL	1.51-2.07 (1.88±0.032) 19	1.82-2.20 (2.08±0.025) 13
EL	2.51-3.14 (2.90±0.041) 19	2.95-3.58 (3.31±0.044) 13
EW	3.83-4.71 (4.42±0.063) 19	4.39-5.21 (4.99±0.063) 13
ProW	2.26-2.95 (2.68±0.054) 19	2.70-3.32 (3.13±0.046) 13
ProL	0.94-1.32 (1.15±0.025) 19	1.19-1.44 (1.33±0.020) 13
PyL	1.25-1.57 (1.44±0.019) 19	1.44-1.82 (1.69±0.027) 13
PTL	1.19-1.51 (1.36±0.018) 19	1.38-1.63 (1.49±0.020) 13
MSTL	1.13-1.69 (1.43±0.031) 19	1.44-1.76 (1.61±0.024) 13
MTTL	1.57-2.38 (1.88±0.042) 19	1.88-2.26 (2.07±0.027) 13

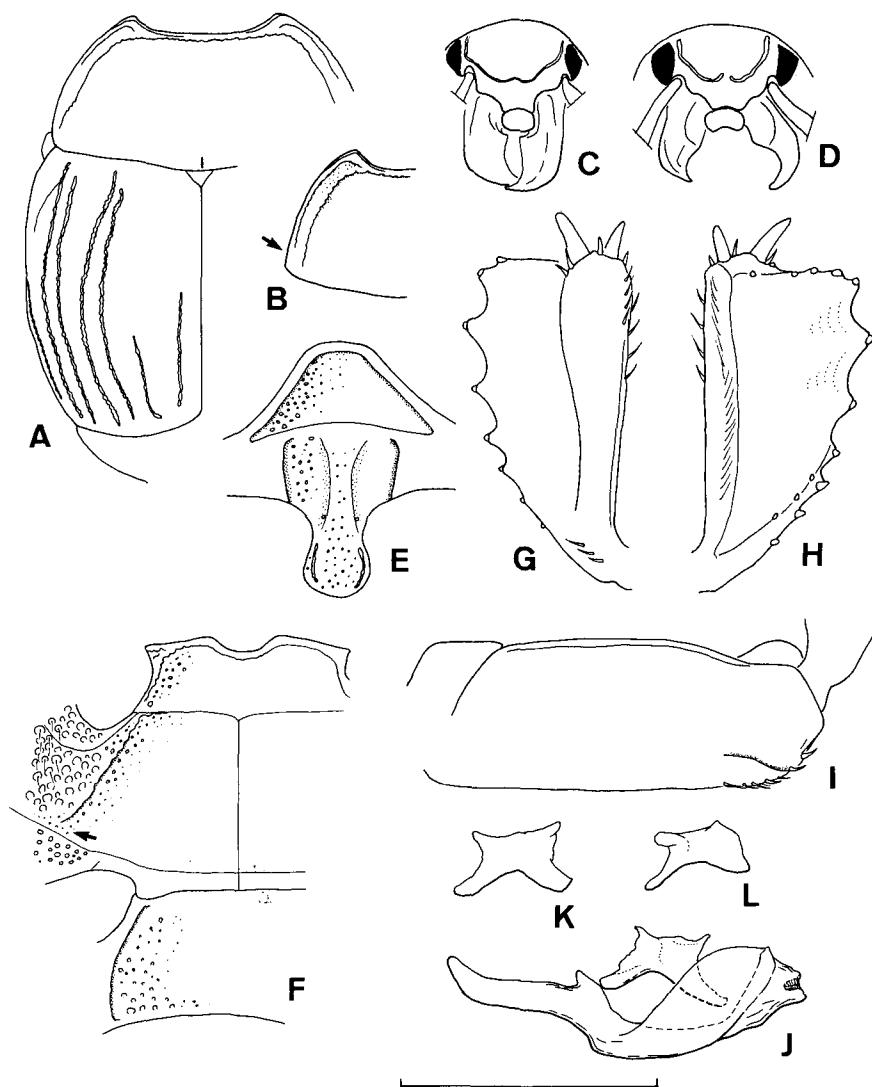


Fig. 10. A-I: *M. (P.) striola* (C.R. Shalberg) [Nopporo, Hokkaidō]. A: Pronotum and left elytron. B: Pronotum. C-D: Head, frontal view. E: Prosternal lobe and keel. F: Meso-, metasternum and 1st abdominal sternum. G: Left protibia, dorsal view. H: ditto, ventral view. I: Left profemur, ventral view. J-L: *M. (P.) striola succicola* (Thomson) [Byelorussia, USSR]. J: Median lobe of male genitalia, lateral view. K: Median armature, lateral view. L: ditto [Netherlands]. Scale: 1.0 mm.

stria complete (Fig. 10-E). Prosternal keel sparsely and moderately punctate, with a large puncture on each side at basal third of prosternum, and sometimes with (usually without) carinal stria between coxae.

Anterior margin of mesosternum (Fig. 10-F) strongly emarginate at middle, straight laterally, its marginal stria complete. Disk of mesosternum sparsely and finely punctate, the punctures becoming larger laterally, and with a large fovea

behind each anterior angle. Meso-metasternal suture complete, obtusely angulate at middle. Lateral metasternal stria not united with the oblique stria of metasternum which extends inwardly from the middle of the metasternal-metepisternal suture. Intercoxal disk of metasternum sparsely and finely punctate, the punctures becoming larger laterally. Lateral disk densely covered with large, round and shallow punctures, and with hairs.

Intercoxal disk of 1st abdominal sternum (Fig. 10-F) completely striate on each side, and largely punctate laterally.

Protibia (Fig. 10-G, H) with 8-9 denticles on outer margin, and 3 small denticles on apical margin of ventral face. Profemur (Fig. 10-I) with posterior marginal stria on apical fourth.

Male genitalia : as in Fig. 11-A, B, C.

Female genitalia : as in Fig. 15-A.

Specimens examined, 17♂, 8♀ and 27 exs. Hokkaidō — 1♂, Mt. Kariba, 14/vi/1986, S. Nomura leg.; 1♂, and 2♀, Sapporo, no date, S. Matsumura leg.; (Hokkaidō University collection); 1 ex., ditto, 27/vi/1913, S. Issiki leg. (Hokkaidō University collection); 15♂, 6♀, 26 exs., Nopporo, 12, 14/vi/1986, 8, 10, 11, 16, 22, 29/v, 5, 7, 12, 19/vi/1987, M. Ôhara leg.

Distribution (Fig. 20). Japan (Hokkaidō); North Europe; Siberia; North Manchuria; Korea.

Remarks. This species is distributed over the Palaearctic region. As far as I know, however, this species is limited to Hokkaidō in Japan. Lewis (1884) reported this species as *Hister japanus* from Yokohama, Honshū, but what he recorded might be another species (see under *M. cadavericola*).

Subspecies *Margarinotus (Ptomister) striola succicola* (Thomson, 1862)

Hister succicola Thomson, 1862 : 224 [South Sweden].

Hister striola succicola : Mazur, 1973 : 59.

Margarinotus succicola : Vienna, 1977 : 40.

Margarinotus striola : Wenzel, 1944 : 126, pl. 7, f. 2.

Margarinotus (Margarinotus) striola succicola : Kryzhanovskij and Reichardt, 1976 : 342 (*succicola* [sic] in key, p. 332).

Hister striola var. *gavoyi* Auzat, 1920 : 4.

The subspecies *succicola* is distinguished from the subspecies *striola* by the shape of the median armature of male genitalia (Fig. 10-J, K, L). Biometric data are given in Table 7.

Specimens examined, 6♂, 5♀. Europe — 2♂, 1♀, Netherland, Rijssen (Ov.), Holl. Schwarzwald, 27/vi/1974, A. van Assen leg.; 4♂, 4♀, USSR, Byelorussia, Minsk reg., 25 Km, W-Myadel, 12/v, 1/vi/1985, A. Tishechkin leg.

Distribution. Central and South Europe, Central Asia.

7. *Margarinotus (Ptomister) yezoensis* M. Ôhara, sp. nov.

Margarinotus (Ptomister) sp. : Ôhara, 1988 : 63 [noted].

Description. ♂ ♀. Body length, PPL 4.0-4.5 mm (4.0 mm in holotype), PEL 3.72-4.0 mm (3.72 mm in holotype). Width, 3.07-3.46 mm (3.11 mm in holotype). Biometric data are given in Table 8. Body oval, black and shining. Funicle and club of antennae, tarsi and maxilla reddish brown.

Table 7. Biometric data for *Margarinotus striola succicola* (Thomson).

Part measured	Male	Female
APW	1.57-1.76 (1.67±0.029) 5	1.63-1.88 (1.77±0.045) 5
PPW	3.39-3.95 (3.71±0.084) 5	3.70-4.33 (4.05±0.119) 5
PL	1.69-1.88 (1.81±0.031) 5	1.76-2.13 (1.98±0.065) 5
EL	2.63-3.01 (2.86±0.065) 5	2.82-3.32 (3.11±0.086) 5
EW	3.95-4.67 (4.36±0.114) 5	4.45-5.08 (4.79±0.116) 5
ProW	2.32-2.95 (2.66±0.104) 5	2.63-3.20 (3.01±0.089) 5
ProL	1.00-1.25 (1.12±0.041) 5	1.10-1.38 (1.27±0.047) 5
PyL	1.31-1.51 (1.41±0.029) 5	1.51-1.82 (1.66±0.052) 5
PTL	1.19-1.44 (1.30±0.037) 5	1.25-1.51 (1.38±0.040) 5
MSTL	1.19-1.44 (1.31±0.040) 5	1.25-1.57 (1.43±0.057) 5
MTTL	1.57-1.88 (1.76±0.053) 5	1.69-2.01 (1.89±0.062) 5

Head (Fig. 12-E) flat, sparsely and finely punctate. Frontal stria well impressed, complete, crenate and shortly straight at middle. Labrum transversely oblong, densely and finely punctulate. Mandible strongly developed, and densely covered with fine punctures. Inner side of mandible concave on basal half to fit labrum.

Marginal pronotal stria (Fig. 12-A) usually broadly interrupted behind head by a space variable from 0.05-0.78 mm (in holotype, 0.05 mm), and complete laterally. Outer lateral stria complete. Inner one complete and strongly crenate. Disk of pronotum distinctly and finely punctate throughout, sometimes with coarse punctures in lateral area along inner lateral stria (Fig. 12-D), and usually with a longitudinal puncture in antescutellar area.

Elytra (Fig. 12-A) with a feeble subapical impression, and sparsely and finely punctate. Epipleural fossette with a few fine punctures. Marginal elytral stria absent. Marginal epipleural stria complete. External subhumeral stria complete.

Table 8. Biometric data for *Margarinotus yezoensis* M. Ôhara.

Part measured	Male	Female
APW	1.10-1.22 (1.17±0.021) 4	1.14-1.26 (1.20±0.022) 4
PPW	2.64-2.76 (2.67±0.022) 4	2.68-2.95 (2.81±0.056) 4
PL	1.30-1.54 (1.42±0.042) 4	1.42-1.65 (1.50±0.048) 4
EL	1.93-2.13 (2.05±0.037) 4	1.97-2.17 (2.09±0.042) 4
EW	3.07-3.31 (3.17±0.045) 4	3.11-3.46 (3.29±0.072) 4
ProW	1.77-2.05 (1.90±0.051) 4	1.85-2.09 (1.99±0.043) 4
ProL	0.71-0.83 (0.78±0.026) 4	0.83-0.94 (0.88±0.021) 4
PyL	1.02-1.18 (1.10±0.028) 4	1.14-1.30 (1.20±0.030) 4
PTL	0.83-1.02 (0.93±0.035) 4	0.91-1.02 (0.95±0.021) 4
MSTL	0.91-1.06 (0.96±0.030) 4	0.94-1.02 (0.98±0.014) 4
MTTL	1.22-1.38 (1.28±0.030) 4	1.26-1.38 (1.33±0.021) 4

Inner subhumeral stria absent. Oblique humeral stria present on basal third. First-3rd dorsal striae complete. Fourth dorsal stria shortly abbreviated at base. Fifth dorsal stria present on apical half, its basal rudiment represented by a long arc on basal fifth. Sutural stria abbreviated at basal third.

Scutellum an equilateral triangle.

Propygidium (Fig. 19-C) finely depressed at sides, without alutaceous ground sculpture, and densely covered with large, deep and ocelloid punctures, the punctures becoming smaller at apex. Fine punctures sparsely scattered between the ocelloid punctures. Punctuation of pygidium (Fig. 19-D) similar to propygidial one.

Prosternal lobe rounded at apex, its marginal stria complete. Disk of lobe alutaceous, and coarsely punctate laterally. Prosternal keel rather broad, without carinal stria.

Anterior margin of mesosternum (Fig. 14-E) feebly emarginate at middle, its marginal stria complete. Disk of mesosternum sparsely clothed with microscopic punctures. Meso-metasternal suture complete, and obtusely angulate at middle. Lateral stria of metasternum extending posteriorly and obliquely for about half the length of the metasternum. Oblique stria of metasternum extending inwardly from the middle of metasternal-metepisternal suture. Intercoxal disk of metasternum sparsely clothed with microscopic punctures. Lateral disk densely covered with large and shallow punctures, and with short hairs.

Intercoxal disk (Fig. 14-E) of 1st abdominal sternum striate on each side, and coarsely punctate along latero-posterior margin.

Protibia (Fig. 14-A, B, C) with a minute denticle on apical margin, and 6-7 denticles on outer margin, the basal three minute. Ventral surface of profemur (Fig. 14-D) sparsely and coarsely punctate, and posterior marginal stria present on apical fourth.

Male genitalia : as in Fig. 11-D, E, F, G.

Female genitalia : as in Fig. 15-B.

Specimens examined. Holotype — ♂, Nopporo, Hokkaidō, Japan, 31/vii/1986, M. Ôhara leg. Paratypes — 5♂, 3♀ and 4 exs. Hokkaidō — 4♂ and 1♀, Nopporo, 31/vii/1986, M. Ôhara leg. ; 1 ex., ditto, 20/viii/1987, M. Ôhara leg. ; 1 ex., Sapporo, vii/1943, N. Aoyama leg. Honshū — (Kanagawa-ken) 1 ex., Asase, Tanzawa, 7/v/1972, Y. Hirano leg. (Niigata-ken) 1♂, 1 ex., Yūkyū-zan, Nagaoka, 15/ix/1985, M. Nishikawa leg. ; 1♀, ditto, 7/x/1985, K. Baba leg. (Fukui-ken) 1♀, Takefu City, 5/v/1936, K. Hatsuda leg.

Distribution (Fig. 21). Japan (Hokkaidō, Honshū).

Remarks. *M. (P.) yezoensis* is closely related to *M. (P.) distinctus* (Erichson) and *M. (P.) wenzelianus* Kryzhanovskij. It may be distinguished from the latter two by the following characters : 1) Aedeagus is quite different in structure ; 2) Mandibles are flattened (convex in *distinctus*) ; 3) Fifth dorsal and sutural striae of elytron are long and have a curved basal rudiment (short and without such a rudiment in the latter two species) ; 4) Punctuation of pygidium is somewhat larger (Dr. O.L. Kryzhanovskij, pers. com.).

Among the Japanese species of *Margarinotus*, this new species is similar to *M. sutus* in body size and general external characters. However, it is more closely related to *M. weymarni*, *M. striola*, *M. cadavericola* and *M. agnatus* in regard to the male genitalia. The new species is distinguished from *M. sutus* by the 5th elytral dorsal stria having a basal rudiment. The striation of this species is similar to that

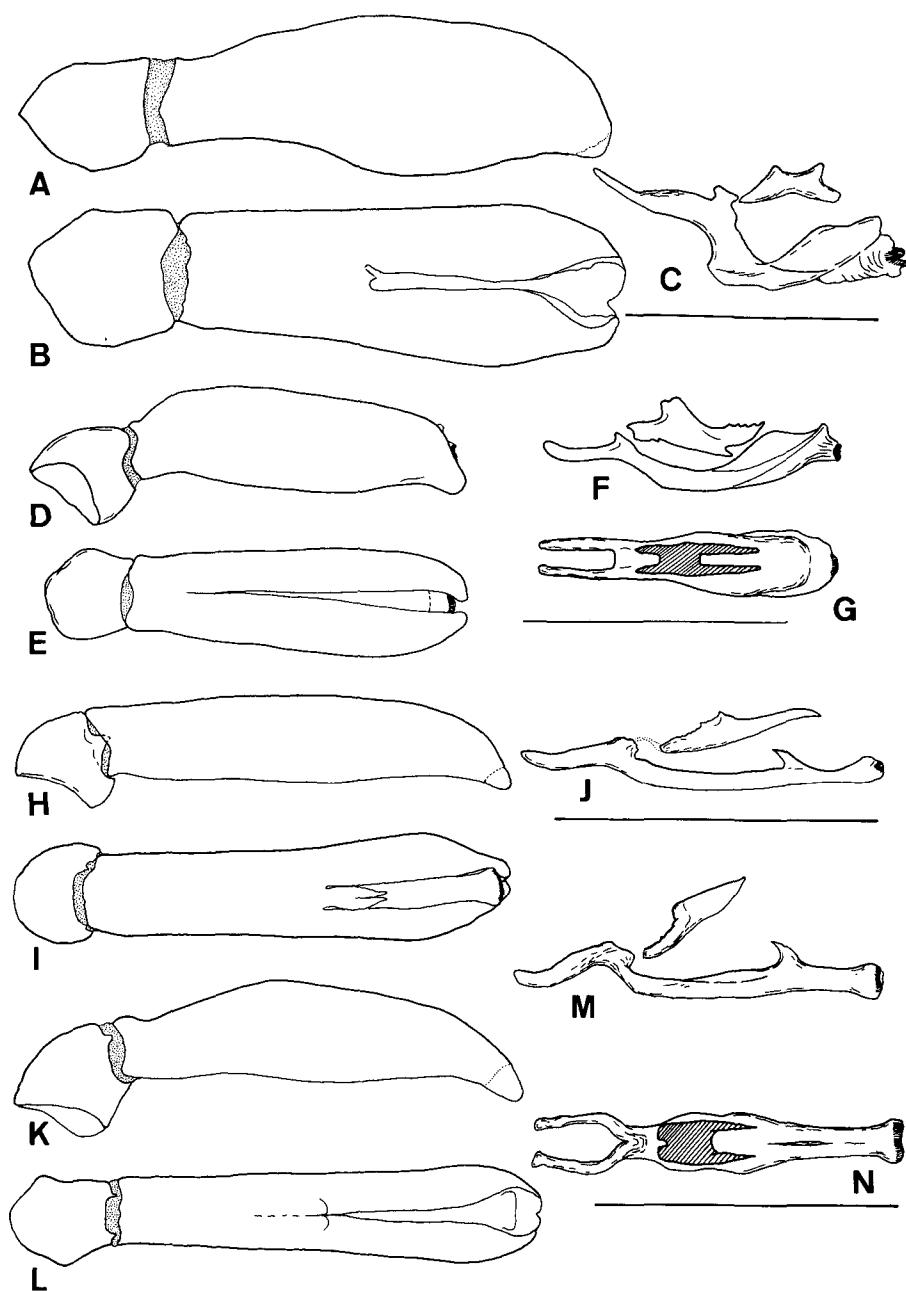


Fig. 11. A-C: *M. (P.) striola* (C.R. Shalberg) [Nopporo, Hokkaidō]. D-G: *M. (P.) yezoensis* M. Ôhara [Nopporo, Hokkaidō]. H-J: *M. (P.) marginepunctatus* (Lewis) [Ôsaka, Honshû]. K-N: *M. (P.) sutus* (Lewis) [Fukushima, Honshû]. A, D, H, K: Aedeagus of male genitalia, lateral view. B, E, I, L: ditto, dorsal view. C, F, J, M: Median lobe, lateral view. G, N: ditto, dorsal view. Scale: 1.0 mm.

of *M. weymarni*, but the two species can be separated from each other by the body size and the punctuation of the pygidium.

The holotype of this species is deposited in the Entomological Institute, Faculty of Agriculture, Hokkaidô University, Sapporo, and one paratype in the collection of Zoological Institute, Academy of Sciences, Leningrad, USSR, in that of Hokkaidô National Agricultural Experiment Station, Sapporo and also in that of Dr. T. Nakane.

Sutus-group

8. *marginepunctatus* (Lewis) 9. *sutus* (Lewis)

Median lobe of the male genitalia not expanded on apical half, stick-like, and its dorsal mid-line with a large denticle on apical third; median armature usually arrowhead-shaped in lateral view (Fig. 11-J, M, N).

No other species of this group are known. Species of the subgenus *Eucalohister* are very similar to this group in regard to the male genitalia (see Phylogenetic notes).

Distribution: Japan and the Far East.

8. *Margarinotus (Plomister) marginepunctatus* (Lewis, 1884)

Hister marginepunctatus Lewis, 1884: 461 [Japan: Hakodate].

Hister marginipunctatus [sic]: Lewis, 1905: 29; Lewis, 1909: 297 [ecological notes].

Hister (Hister) marginipunctatus [sic]: Bickhardt, 1910: 45 [catalogued]; Kamiya and Tagagi, 1938: 31 [listed].

Hister (Grammostethus) marginipunctatus [sic]: Bickhardt, 1917: 191 [catalogued].

Margarinotus marginipunctatus [sic]: Wenzel, 1944: 126 [listed].

Margarinotus marginipunctatus: Hisamatsu and Kusui, 1984: 17 [noted].

Margarinotus (Plomister) marginepunctatus: Hisamatsu, 1985: 227, pl. 4, f. 14 [key, photo].

Margarinotus (Promethister) marginipunctatus: Mazur, 1984b: 177 [catalogued].

Table 9. Biometric data for *Margarinotus marginepunctatus* (Lewis).

Part measured	Female
APW	1.26-1.46 (1.36±0.070) 2
PPW	2.83-2.99 (2.91±0.056) 2
PL	1.54-1.61 (1.57±0.028) 2
EL	2.17-2.36 (2.26±0.070) 2
EW	3.27-3.54 (3.41±0.097) 2
ProW	1.97-2.28 (2.13±0.111) 2
ProL	0.83-0.94 (0.89±0.042) 2
PyL	1.14-1.22 (1.18±0.028) 2
PTL	1.14-1.14 (1.14±0.000) 2
MSTL	1.18-1.26 (1.22±0.028) 2
MTTL	1.42-1.61 (1.52±0.070) 2

Description. ♂♀. Body length, PPL 4.3-4.8 mm. PEL 3.95 mm. Width, 3.3-3.5 mm. Biometric data are given in Table 9. Body oblong-oval, moderately convex. Body black and shining, but legs, maxillary palpi and funicle brownish red.

Frontal stria of head (Fig. 12-F) complete, sometimes narrowly interrupted at middle. Head sparsely and finely punctate.

Marginal pronotal stria (Fig. 12-B) interrupted behind head, and abbreviated on basal two-thirds or half laterally. Outer lateral stria complete. Inner lateral stria complete, strongly crenate. Disk of pronotum densely and coarsely punctate inside the inner lateral stria, and wholly covered with microscopic punctures.

Epipleural fossette with some large punctures, especially densely along outer margin. Marginal epipleural stria complete, continuously with large punctures. Marginal elytral stria absent. Elytra (Fig. 12-B) with a slight subapical impression. External subhumeral and 1st-3rd dorsal striae complete, well impressed. Internal subhumeral stria absent. Oblique humeral stria present on basal fourth. Fourth dorsal stria complete, sometimes abbreviated at base (in holotype, complete). Fifth dorsal and sutural striae present on apical half.

Propygidium (Fig. 19-E) densely covered with coarse and shallow punctures, and a few minute punctures intermingled, the punctures finer along margin. Punctuation of pygidium (Fig. 19-F) similar to propygidial one, minute at apex.

Prosternal lobe (Fig. 14-J) rounded at apex, densely and finely punctate, the punctures becoming coarser laterally, its marginal stria complete and deeply impressed. Prosternal keel with long carinal stria, which are well impressed between the procoxae.

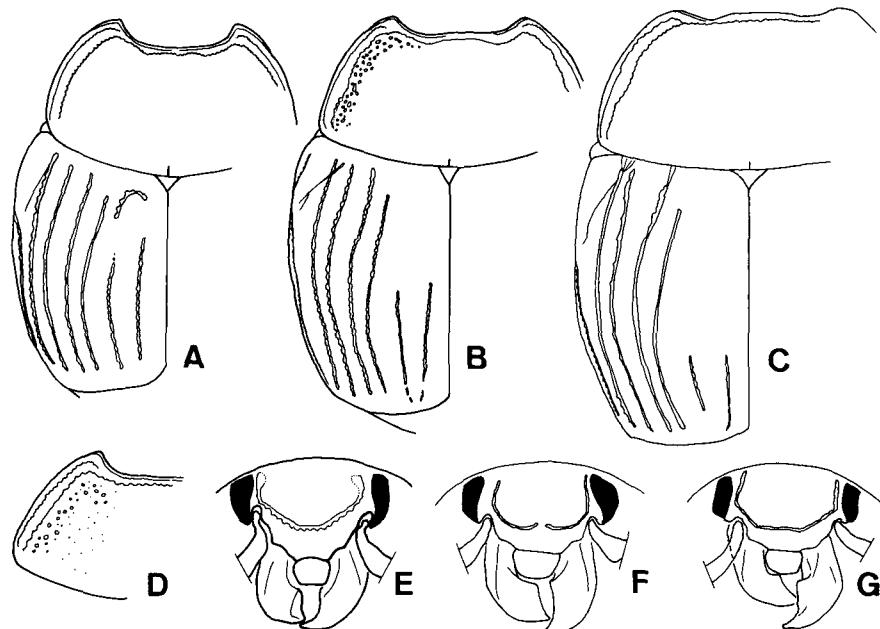


Fig. 12. A, D, E: *M. (P.) yezoensis* M. Ôhara. B, F: *M. (P.) marginepunctatus* (Lewis). C, G: *M. (P.) sutus* (Lewis). A-C: Pronotum and left elytron. D: Pronotum. E-G: Head, frontal view.

Anterior margin of mesosternum (Fig. 14-I) feebly emarginate at middle, its marginal stria complete. Disk of mesosternum punctulate finely and sparsely. Meso-metasternal suture complete and well impressed. Lateral metasternal stria hooked at apical end, extending obliquely and posteriorly, not united with the oblique stria which extends obliquely and medially from two-thirds of the metasternal-metepisternal suture. Intercoxal disk of metasternum smooth and finely punctate (in holotype with a large excavation on lateral side). Lateral disk of metasternum covered with large, round and shallow punctures, and without hair.

Intercoxal disk of the 1st abdominal sternum (Fig. 14-I) finely and sparsely punctulate, strongly striate on each side.

Protibia (Fig. 14-F, G) with 7 denticles on outer margin, its apical margin straight. Ventral surface of profemur (Fig. 14-H) densely with round and large punctures. Posterior marginal stria short and present apically.

Male genitalia : basal piece : paramera = 1 : 5.5. Medial lobe with 1 denticle on dorsal mid-line (Fig. 11-H, I, J).

Female genitalia : spermatheca divided into 8 receptacles, of which the basal two are small (Fig. 15-D).

Specimens examined, 2♂ and 2♀. Holotype (Fig. 13-A, B) — ♂, Hakodate, Hokkaidō [Lewis collection, British Museum (Natural History), No. 1926-369]. Honshū — (Aomori-ken) 1♀, Mutsu City, Osorezan, 27/viii/1983, S. Yamauchi leg. (Gifu-ken) 1♀, Takayama City, 11/v/1968, T. Nohira leg. (Ōsaka-fu) 1♂, Minomo, 13/iv/1919, no collector's name [Kyushu University collection].

Distribution (Fig. 20). Japan (Hokkaidō, Honshū, Shikoku).

Remarks. This species is included in the subgenus *Promethister* Kryzhanovskij, 1966, by Mazur (1984b). I agree with Hisamatsu (1985) in his opinion that it should be transferred to the subgenus *Ptomister* Houbert and Monnot, 1922, because it has the following characters : (1) club of antenna clearly segmented and without long hair ; (2) pronotum with two lateral striae ; (3) male genitalia of this species are different from those of *M. (Promethister) prometheus* (Kryzhanovskij) and *M. (Pro.) marginatus* (Erichson) and rather similar to those of the subgenus *Eucalohister* Reitter (and also to those of *sutus*). This species and *M. sutus* differ from the subgenus *Eucalohister* in lacking long yellow pubescence on dorsal side of the meso- and metatibiae (see Phylogenetic notes).

This species is easily distinguished from all the other Japanese species of the

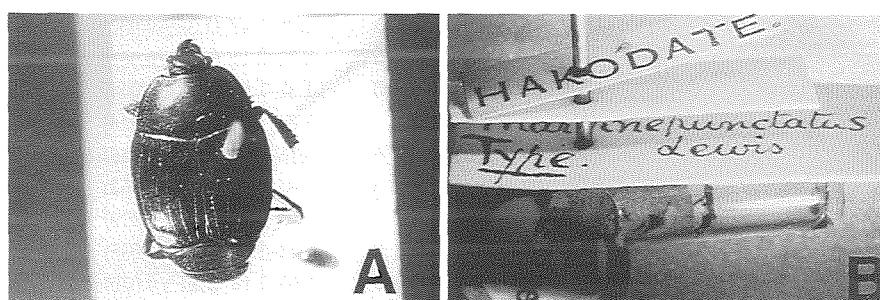


Fig. 13. *M. (P.) marginepunctatus* (Lewis). A : Holotype (British Museum), dorsal view. B : Labels of Holotype.

tribe Histerini by having coarse punctuation inside the inner lateral pronotal stria.

9. *Margarinotus (Ptomister) sutus* (Lewis, 1884)

Hister sutus Lewis, 1884: 136 [Japan: Kiga, near Miyanoshita]; Mazur, 1970: 59 [Korea].

Hister (Hister) sutus: Bickhardt, 1910: 50 [catalogued]; Bickhardt, 1917: 186 [catalogued]; Kamiya and Takagi, 1938: 30 [listed].

Margarinotus (Margarinotus) sutus: Kryzhanovskij and Reichardt, 1976: 344 [key, noted].

Margarinotus (Ptomister) sutus: Hisamatsu and Kusui, 1984: 16 [listed]; Mazur, 1984b: 168 [catalogued]; Hisamatsu, 1985: 227, pl. 4, f. 13 [key, noted, photo].

Description. ♂ ♀. Body length, PPL 3.75-5.2 mm, PEL 3.2-4.3 mm. Width, 2.7-3.6 mm. Biometric data are given in Table 10. Body oblong, oval, black and shining.

Frontal stria of head (Fig. 12-G) complete, well impressed and straight.

Marginal pronotal stria (Fig. 12-C) broadly interrupted behind head, complete laterally. Outer lateral stria complete. Inner lateral stria complete, feebly sinuate at middle laterally. Disk of pronotum sparsely covered with microscopic punctures (rarely with moderate punctures inside the inner lateral pronotal stria).

Epipleural fossette of elytra densely and largely punctate. Marginal elytral stria absent. Marginal epipleural stria complete, with large punctures. Elytra sparsely clothed with microscopic punctures. External subhumeral (Fig. 12-C) and 1st-3rd dorsal striae complete. Internal subhumeral stria absent. Fourth dorsal stria abbreviated on basal fourth. Fifth shorter than sutural, and present on apical fourth. Sutural stria present on apical fourth. Oblique humeral stria present on basal third.

Pygidia (Fig. 19-G, H) feebly alutaceous. Propygidium densely covered with ocelloid punctures, and minute punctures scattered between ocelloid ones. Punctuation of pygidium similar to propygidal one, this becoming finer apically.

Prosternal lobe (Fig. 14-O) rounded at apex, alutaceous, and sparsely and moderately punctate, its marginal stria complete. Prosternum with alutaceous sculpture on apical half, sparsely punctate on basal half, and a large puncture at

Table 10. Biometric data for *Margarinotus sutus* (Lewis).

Part measured	Male	Female
APW	1.10-1.26 (1.19±0.023) 5	1.22-1.41 (1.33±0.030) 5
PPW	2.36-2.80 (2.57±0.066) 5	2.72-3.11 (2.92±0.061) 5
PL	1.22-1.50 (1.38±0.043) 5	1.38-1.65 (1.53±0.044) 5
EL	1.85-2.20 (2.06±0.062) 5	2.24-2.48 (2.37±0.038) 5
EW	2.72-3.19 (2.94±0.079) 5	3.15-3.58 (3.35±0.068) 5
ProW	1.38-1.93 (1.69±0.080) 5	1.85-2.20 (2.01±0.053) 5
ProL	0.63-0.87 (0.74±0.036) 5	0.83-0.98 (0.91±0.029) 5
PyL	0.94-1.14 (1.02±0.030) 5	1.14-1.38 (1.24±0.035) 5
PTL	0.94-1.10 (1.02±0.029) 5	0.98-1.18 (1.11±0.030) 5
MSTL	0.98-1.10 (1.03±0.021) 5	1.06-1.18 (1.13±0.020) 5
MTTL	1.14-1.46 (1.31±0.045) 5	1.38-1.50 (1.44±0.024) 5

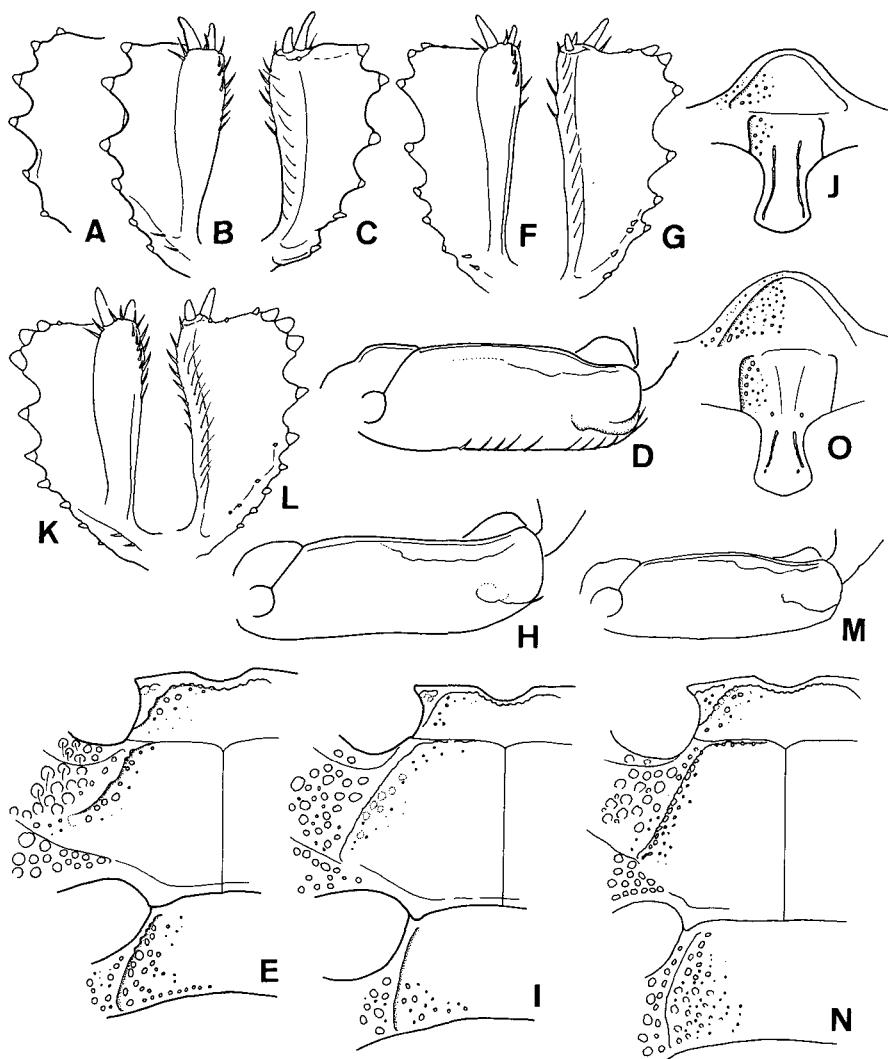


Fig. 14. A-E: *M. (P.) yezoensis* M. Ôhara. F-J: *M. (P.) marginepunctatus* (Lewis). K-O: *M. (P.) sutus* (Lewis). A, B, F, K: Left protibia, dorsal view. C, G, L: ditto, ventral view. D, H, M: Left profemur, ventral view. E, I, N: Meso-, metasternum and 1st abdominal sternum. J, O: Prosternal lobe and keel.

middle of prosternal keel on each side. Carinal stria present on basal half of keel on each side.

Anterior margin of mesosternum (Fig. 14-N) feebly emarginate, its marginal stria complete and crenate. Area between the marginal stria and antero-lateral angle shortly striate on each side. Meso-metasternal suture complete, obtusely angulate at middle. Lateral metasternal stria running along meso-metasternal suture, extending posteriorly and obliquely, its apical end not united (sometimes united) with the oblique stria, which extends inwardly from the middle of the metasternal-metepisternal suture. Intercoxal disk of metasternum sparsely cov-

ered with microscopic punctures. Lateral disk densely covered with large, round and shallow punctures, without hair.

Intercoxal disk of 1st abdominal sternum (Fig. 14-N) completely striate on each side, and punctate along lateral and posterior margin.

Protibia with 7-10 denticles (Fig. 14-K, L) externally, its apical angle bearing three denticles. Ventral surface of profemur (Fig. 14-M) alutaceous and coarsely punctate. Posterior marginal femoral stria short and present apically.

Male genitalia : median lobe with 1 denticle on dorsal mid line (Fig. 11-K, L, M, N).

Female genitalia : spermatheca divided into 5 receptacles (Fig. 15-C).

Specimens examined, 4♂, 4♀ and 5 exs. Honshū—*<Fukushima-ken>* 1♂, 1♀ and 3 exs, Mt. Monden, Odayama, 15/v/1947, K. Nagayama leg.; 1♂, ditto, 8/vi/1947, K. Nagayama leg.; 1♂ and 1♀, Nr. Wakamatsu, Ikki, 11/v/1947, Y. Kurosawa leg.; 1 ex., Nuruyu, Azumayama, 23/v/1961, K. Tazoe leg.; 1♀, Noji, Azumayama, 8/v/1963, K. Tazoe leg. *<Tochigi-ken>* 1♂, Mokkō, Nikkō, 17/vii/1981, H. Tanaka leg. *<Tōkyō-to>* 1♀, Suginami, 16/iv/1982, M. Ishida leg. Kyūshū—*<Kumamoto-ken>* 1 ex., Kurokawa, 2/iii/1983, H. Aramaki leg.

Distribution (Fig. 21). Japan (Honshū, Shikoku, Kyūshū); Korea.

Remarks. This species is closely related to *M. marginepunctatus* in the median lobe of male genitalia (see *M. marginepunctatus*).

SUBGENUS GRAMMОСТЕTHUS LEWIS, 1906

Type species: *Hister ruficornis* Grimm, 1852: 222.

Syn.: *Coprister* Houlbert et Monnot, 1923: 23 (part), by Cooman, 1947: 428.

The subgenus *Grammostethus* was established by Lewis in 1906 as a genus, with *Hister ruficornis* Grimm designated as the type. Later, Bickhardt (1910) treated the

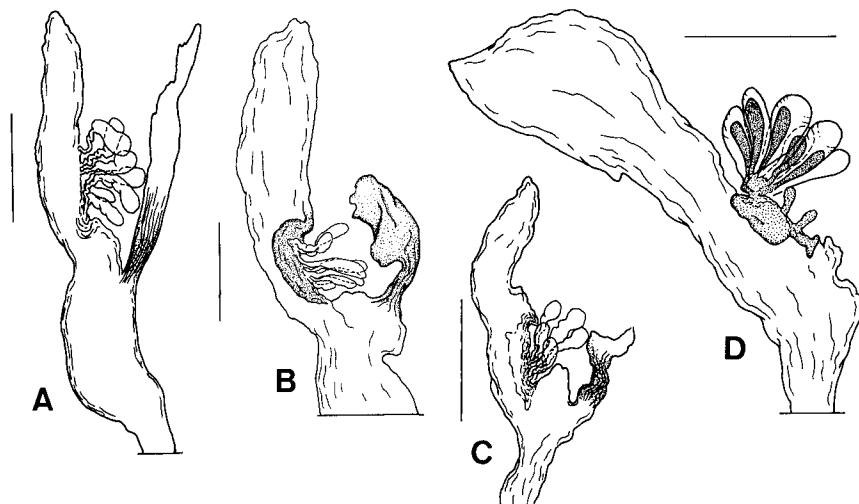


Fig. 15. A: *M. (P.) striola* (C.R. Shalberg) [Nopporo, Hokkaidō]. B: *M. (P.) yezoensis* M. Ôhara [Nopporo, Hokkaidō]. C: *M. (P.) sutus* [Fukushima, Honshū]. D: *M. (P.) marginepunctatus* (Lewis) [Aomori, Honshū]. A-D: Spermatheca and bursa copulatrix, lateral view (right side). Scale: 0.5 mm.

genus as a subgenus under the genus *Hister* Linnaeus. However, Lewis (1915) did not follow him.

In 1944, Wenzel expanded the genus *Margarinotus* Mars. to include *Grammostethus* as a synonym. Kryzhanovskij and Reichardt (1976) revised the species of *Margarinotus* occurring in the USSR, and recognized *Grammostethus* as a subgenus under *Margarinotus*. Up to now, many authors have followed them.

Lewis's (1906) description. "Body oval or shortly oval, convex; head, funiculus of the antenna not widening out behind, the club is similar to that figured for *H. merdarius* in Marseul's monograph, labrum length and breadth nearly equal, mandibles somewhat long and convex above, frontal stria well marked, semicircular or bowed in outline; thorax with one lateral stria strong and complete, usually somewhat sinuous, antennal fossa in the anterior angle, almost circular and open to view below; elytra, fourth dorsal stria with a detached basal appendage; prosternum bistriate; mesosternum, anterior edge feebly sinuous or nearly truncate; anterior tibia with many small denticles."

Additional description: Body small, 3.0-6.0 mm in length, usually convex and shining. Pronotum with complete marginal stria and 1 (inner) lateral stria. External subhumeral stria of elytron complete. Internal one absent. First-4th dorsal usually complete, and 5th and sutural striae shortened basally. Usually 5th dorsal stria with basal rudiment in an arc. Propygidium and pygidium alutaceous, and covered with coarse and ocelloid punctures. Prosternal keel usually with carinal striae. Epipleura of pronotum without yellow hair. Protibiae usually with many small denticles and distance between denticles narrow. Meso- and metatibiae without yellow pubescence on dorsal surface. Profemoral posterior marginal stria present on apical sixth. Spermatheca of female genitalia consisting of several receptacles, the receptacles sac-shaped (not slender).

Two types of the male genitalia have been recognized. 1) When median lobe is extruded, apical fourth of tegmen is bent downwards; apical half of median lobe expanded and spoon-like. This type is represented by *ruficornis* Grimm and *curvicollis* Bickhardt. 2) Apical part of tegmen not bent downwards; median lobe slender. This type is found in *niponicus* Lewis. The genitalia of the other species of this subgenus have not been studied.

This subgenus is composed of 17 known species, and most of them are distributed in the Oriental Region and a few in the Palaearctic Region.

10. *Margarinotus (Grammostethus) niponicus* (Lewis, 1895)

Hister navus : Marseul, 1873: 224 [recorded from Nagasaki, Kyūshū, Japan].

Hister nanus [sic] : Reitter, 1879: 209 [eastern Siberia].

Hister niponicus Lewis, 1895: 188 [Japan: "found in all the islands"]; Lewis, 1900: 282 [synonymy noted].

Grammostethus niponicus : Lewis, 1906: 401; Lewis, 1915: 55 [Taiwan, Arisan].

Hister (Grammostethus) niponicus : Bickhardt, 1910: 52 [catalogued]; Bickhardt, 1913: 172 [Taiwan: Hoozan]; Bickhardt, 1917: 191 [catalogued]; Desbordes, 1919: 396; Kamiya and Takagi, 1938: 31 [listed]; Ōsawa and Nakane, 1951: 6, f. 6 [described, illustrated].

Margarinotus niponicus : Wenzel, 1944: 126 [listed]; Nakane, 1963: 70, pl. 35, f. 14 [photo, noted].

Margarinotus (Grammostethus) niponicus : Kryzhanovskij and Reichardt, 1976: 367, f. 757-762 [noted, key, illustrated]; Nakane, 1981: 10 [listed]; Hisamatsu and Kusui, 1984: 16 [listed,

noted] ; Mazur, 1984b : 176 [catalogued] ; Hisamatsu, 1985 : 227, pl. 4, f. 15 [key, noted, photo].

Description. ♂ ♀. Body length, PPL 3.1-5.0 mm, PEL 2.9-4.35 mm. Width, 2.5-3.7 mm. Biometric data are given in Table 11. Body oblong-oval, black and shining.

Frontal stria of head (Fig. 16-B, C, D) complete and sometimes inwardly bent or interrupted at middle.

Marginal pronotal stria (Fig. 16-A) broadly interrupted behind head, and complete laterally. Lateral pronotal stria complete, crenulate, and with a feeble angulation behind the eyes. Disk of pronotum clothed with microscopic punctures, and with a longitudinal puncture in antescutellar area.

Subapical impression of elytra (Fig. 16-A, E, F, G) feeble. Disk of elytra sparsely clothed with microscopic punctures. Epipleural fossette densely and coarsely punctate. Marginal elytral stria absent. Marginal epipleural stria complete, and densely punctate. External subhumeral and 1st-4th dorsal striae complete. Fifth dorsal stria a little shorter than the sutural, and its basal rudiment represented by a short arc. Sutural stria present on apical half. Oblique humeral stria present on basal third. All striae, except the oblique humeral one, strongly crenate.

Pygidia (Fig. 19-I, J) alutaceous. Propygidium with an indistinct depression on each posterior side, and its punctures coarse, deep, separated by 0.5-1.0 times their diameter, and minute punctures intermingled with them. Punctures on pygidium denser than those on propygidium.

Prosternal lobe (Fig. 16-L, M, N) rounded at apex, its marginal stria complete, of which the basal end deeply and largely foveate. Prosternal keel rather broad, with carinal stria on each side, the basal ends of the striae being connected with each other along the basal margin of prosternum (often interrupted).

Anterior margin of mesosternum (Fig. 16-H) slightly emarginate at middle, its marginal stria complete and feebly crenulated. Disk of mesosternum sparsely clothed with microscopic punctures. Meso-metasternal suture complete and subcarinate. Lateral stria of metasternum crenate, extending posteriorly to near, but

Table 11. Biometric data for *Margarinotus (Grammostethus) niponicus* (Lewis).

Part measured	Male	Female
APW	0.96-1.30 (1.14±0.010) 50	1.02-1.38 (1.22±0.009) 50
PPW	2.09-2.72 (2.47±0.021) 50	2.32-3.07 (2.71±0.026) 50
PL	1.06-1.40 (1.25±0.012) 50	1.18-1.65 (1.40±0.014) 50
EL	1.46-2.13 (1.81±0.017) 50	1.73-2.28 (2.02±0.019) 50
EW	2.48-3.28 (2.91±0.025) 50	2.80-3.66 (3.24±0.030) 50
ProW	1.38-1.89 (1.70±0.016) 50	1.61-2.20 (1.91±0.020) 50
ProL	0.63-0.87 (0.76±0.009) 50	0.71-1.14 (0.87±0.011) 50
PyL	0.71-1.08 (0.92±0.010) 50	0.87-1.18 (1.03±0.010) 50
PTL	0.75-1.02 (0.89±0.009) 50	0.79-1.10 (0.96±0.009) 50
MSTL	0.75-1.06 (0.92±0.011) 50	0.83-1.18 (0.99±0.011) 50
MTTL	0.94-1.38 (1.17±0.012) 50	1.10-1.42 (1.27±0.012) 50

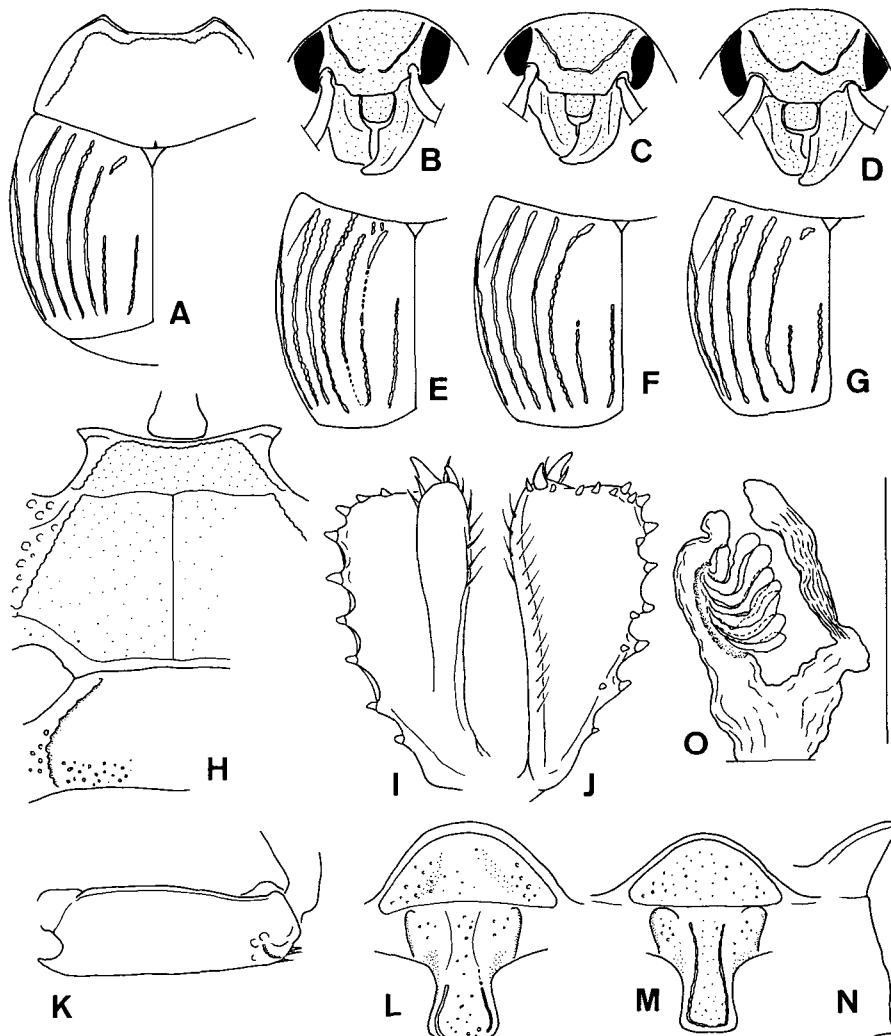


Fig. 16. *M. (G.) niponicus* (Lewis). A: Pronotum and left elytron. B-D: Head, frontal view. E-G: Left elytron. H: Meso-, metasternum and 1st abdominal sternum. I: Left protibia, dorsal view. J: ditto, ventral view. K: Left profemur, ventral view. L-M: Prosternal lobe and keel. N: ditto, lateral view. O: Spermatheca and bursa copulatrix, lateral view (right side) [Iwate, Honshū]. Scale: 0.5 mm.

not united with, the oblique stria which extends inwardly from the middle of the metasternal-metepisternal suture. Lateral disk of metasternum covered with coarse and round punctures, and with short hairs.

Intercoxal disk of 1st abdominal sternum (Fig. 16-H) completely striate on each side.

Protibia (Fig. 16-I, J) with 7-8 denticles on external dorsal edge, and with 10 small denticles on external ventral edge. Profemur (Fig. 16-K) with posterior marginal femoral stria, the stria short, present on apical area.

Male genitalia : as in Fig. 17-A, B, C, D, E, F.

Female genitalia : as in Fig. 16-O.

Specimens examined, 7♂, 4♀ and 142 exs. Hokkaidō — 1 ex., Maruyama, Sapporo, 16/vii/1942, N. Aoyama leg.; 1 ex., Usubetsu, 22/vii/1954, K. Sawada leg.; 1 ex., Horokanai, Moshiri, 9/viii/1983, T. Hosokawa leg.; 2♀ and 28 exs., Nopporo, 17, 27/vi/1986, M. Ōhara leg.; 1♂, 4 exs., Jōzankei, 7/vi/1985, 13, 16/vii/1986, M. Ōhara leg.; 1 ex., Tomakomai, 15/viii/1978, no collector's name; 1 ex., Zenibako, 8/vii/1977, N. Nishikawa leg.; 1♂, 1 ex., Chimikeppu lake, Tsubetsu, 6/viii/1987, M. Ōhara leg.; 1♂, Horonai, Okushiri Is., 18/vii/1986, Y. Kusui leg.; 1♂, Inaho, Okushiri Is., 12/viii/1986, Y. Kusui leg.; 1 ex., Yagishiri Is., 21/vi/1985, Y. Kusui leg. Honshū — *<Aomori-ken>* 1 ex., Tuta-onsen, Towada, 25/vii/1954, J. Aoki leg. *<Iwate-ken>* 3♂, 1♀, 10 exs., Kuriyagawa, 20/v/1974, H. Hayakawa leg.; 4 exs., Nishine, 28/vi, 12/ix/1974, no collector's name. *<Fukushima-ken>* 1 ex., Mt. Odayama, Wakamatsu, 12/v/1948, Y. Kurosawa leg.; 1 ex., Innai, Higashiyama, Kita-aizu, 17/vii/1947, Y. Kurosawa leg.; *<Tochigi-ken>* 27 exs., Nikkō, Kiyotaki, 15/v, 10/vii, 10/viii/1977, no collector's name; 1 ex., Nikkō, Tyugusi, 9-11/viii/?; T. Adachi leg. *<Chiba-ken>* 5 exs., Ōami, 22/vi/1984, M. Ōhara leg. *<Tōkyō-to>* 1 ex., Hongō, 29/v/1946, T. Nakane leg.; 3 exs., Aoyama, 27/v/1946, 29/iv, 6/viii/1955, T. Nakane leg.; 1 ex., Tōkyō, 18/iv/1952, H. Kajimura leg. *<Kanagawa-ken>* 1♂, 1 ex., Sagami-ōyama, 13/v/1967, 5/v/1968, K. Masumoto leg. *<Shizuoka-ken>* 1 ex., Gotenba, 21/viii/1934, K. Nakamura leg. *<Nagano-ken>* 1 ex., Shimashima, 25, 26/vii/1946, T. Nakane leg.; 1 ex., Komanoyu, 25/vii/1947, T. Nakane leg.; 2 exs., Noziri, 19/vii/1941, T. Nakane leg.; 1 ex., Komagatake, Kiso, 4, 5/viii/1946, S. Ōsawa leg.; 1 ex., Kamikōchi, 21-28/vii/1947, S. Ōsawa leg. *<Gifu-ken>* 1 ex., Hirayu, 24/vii/1946, M. Hayashi leg. *<Mie-ken>* 1 ex., Yonoyama, Ise, 1/vi/1947, S. Ōsawa leg.; 1 ex., ditto, 3/vi/1948, S. Tabuchi leg.; 1 ex., Hayakawa, 27-30/vii/1953, H. Ōhira leg. *<Kyōto-fu>* 1 ex., Kurama, 11/vii/1956, T. Nakane leg.; 1 ex., Mt. Daihi, 15/vi/1941, K. Sakaguchi leg.; 1 ex., Miyama, 4/vi/1984, T. Hosokawa leg. *<Nara-ken>* 1 ex., Kasuga, 23/vi/1946, F. Takahashi leg.; 1 ex., Yoshino, v/1939, K. Kurosa leg. *<Hyōgo-ken>* 1 ex., Hataganaru, Tazima, 12/v/1954, T. Okutani leg. *<Wakayama-*

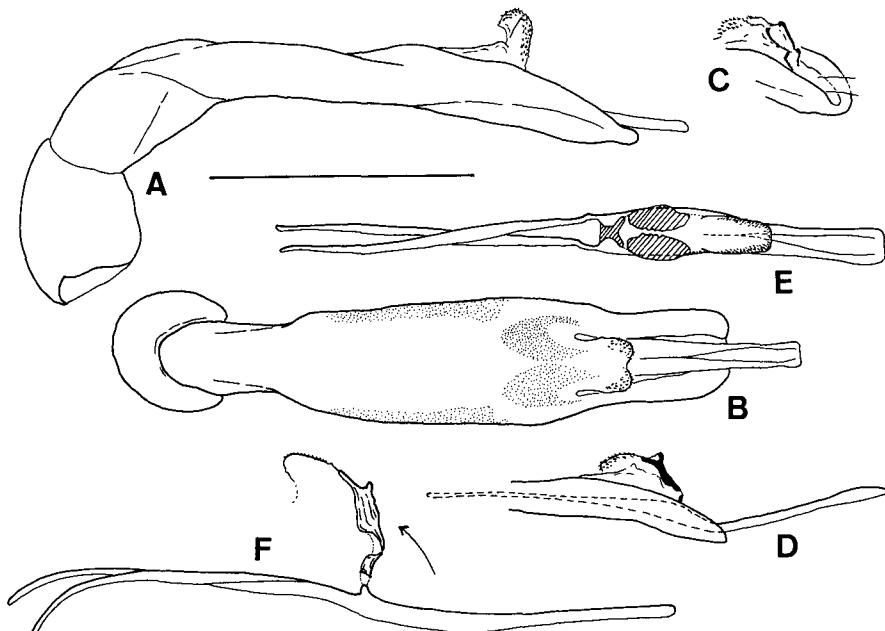


Fig. 17. *M. (G.) niponicus* (Lewis) [Iwate, Honshū]. A : Male genitalia, lateral view. B : ditto, dorsal view. C : Apex of genitalia, oblique view. D : ditto, in median lobe extruded, lateral view. E : Median lobe, dorsal view. F : ditto, lateral view. Scale : 0.5 mm.

ken> 1 ex., Nishinokawa, 2/vii/1957, M. Yoshida leg. ; 1♂, Singu, Southern Kii, 18/vii/1946, S. Ōsawa leg. ; 1 ex., Nachi, Southern Kii, 16/vii/1946, S. Ōsawa leg. < Tottori-ken> 2 exs., Mt. Kyūshū, 7/vi/1984, S. Nomura leg. Shikoku—< Kōchi-ken> 1 ex., Kodagasakiyama, Tosa, 12/iv/1946, S. Nakamura leg. Kyūshū—< Fukuoka-ken> 2 exs., Fukuchi-yama, 4/viii/1951, F. Takahashi leg. ; 2 exs., Mt. Hiko, 18/v/1955, K. Sawada leg. < Saga-ken> 2 exs., Nakahara, 12/v/1952, 23/iv/1950, Y. Miyake leg. ; 1♀, 1 ex., Shimo, Hirokawa, 16, 18/vi/1954, Y. Miyake leg. ; 2 exs., Tashiro, 12/v/1952, Y. Miyake leg. ; 1 ex., Nakamachi, 21/vi/1952, A. Yamaguchi leg. ; 1 ex., Ogashirayama, 7/v/1984, H. Yamaguchi leg. < Kumamoto-ken> 7 exs., Sakamoto, Kawaguchi, 15/vi/1985, T. Tanabe leg. < Kagoshima-ken> 1 ex., Kurino, Kirishima, 31/vii/1985, M. Ōhara leg. ; 1 ex., Takachihi-nomine, Kirishima, vi/1967, H. Makihara leg. ; 1 ex., Kirishima, 25/vii/1971, T. Nakane leg. ; 1 ex., Shiroyama, 19/vi/1951, F. Takahashi leg. ; 1♂, 1 ex., Toso, Kagoshima City, 20/iv/1984, M. Ōhara leg. ; 1 ex., Yoshino, Kagoshima City, 6/v/1985, E. Matsui leg. ; 1 ex., Takakuma-yama, 5/v/1980, T. Kinoda leg. Nansei Isls.— 1 ex., Okinoerabu-jima, 19/v/1981, K. Tomiyama leg.

Distribution (Fig. 21). Japan (Hokkaidō, Honshū, Shikoku, Kyūshū, Nansei Isls.); Taiwan; Continental China; Korea; USSR (Khabarovskij and Primorskij Kray).

Remarks. This species is very common in Japan. It usually occurs on carcasses, sometimes on sap, fungi or decaying vegetable matter, and is rarely found in dung.

NOTES ON THE PHYLOGENETIC RELATIONSHIP OF SOME MAJOR GROUPS WITHIN THE GENUS MARGARINOTUS

The genus *Margarinotus* may be a monophyletic group and a good taxon. However, the relationship of the species composing it is still uncertain, and the subgenera as currently understood appear problematical so far as the male genitalia examined (see Appendix) are concerned. The Japanese species of *Plomister* can be divided into three groups on the basis of the male genitalia. Moreover, judging from figures of Kryzhanovskij and Reichardt (1976), *Margarinotus koltzei* (Schmit) and *M. hiliar* Wenzel seem to represent another type of the male genitalia and to form a fourth group, the *koltzei*-group*. These groups are, in regard to the male genitalia, often more closely related to other subgenera than to each other. For example, the *sutus*-group is apparently related to the subgenus *Eucalohister* Reitter, sharing with the latter the apomorphic character that dorsal mid-line of the median lobe of the male genitalia is armed with a large denticle (fig. 11-J, M, N.). The *koltzei*-group is closely related to the subgenus *Paralister* Bickhardt. They agree in the uni- or trilobate apex of the median lobe of the male genitalia, a character also possibly apomorphic. I think that the male genitalia are very useful in distinguishing closely related species because they might have evolved rapidly and divergently. Yet, on the other hand, the fundamental structure of the male genitalia may reflect phylogenetic relationships among species groups.

Relationships of the subgenera and groups, based on the male genitalia, are shown in Table 12. This table suggests that the characters which have been used to

* *Koltzei*-group. Median lobe of male genitalia not expanded on apical half, stick-like. Apex of lobe bent backwards and uni- or trilobate in dorsal view. This group consists of *koltzei* (Schm.) and *hiliar* Wenzel, and is distributed in northern China and eastern USSR.

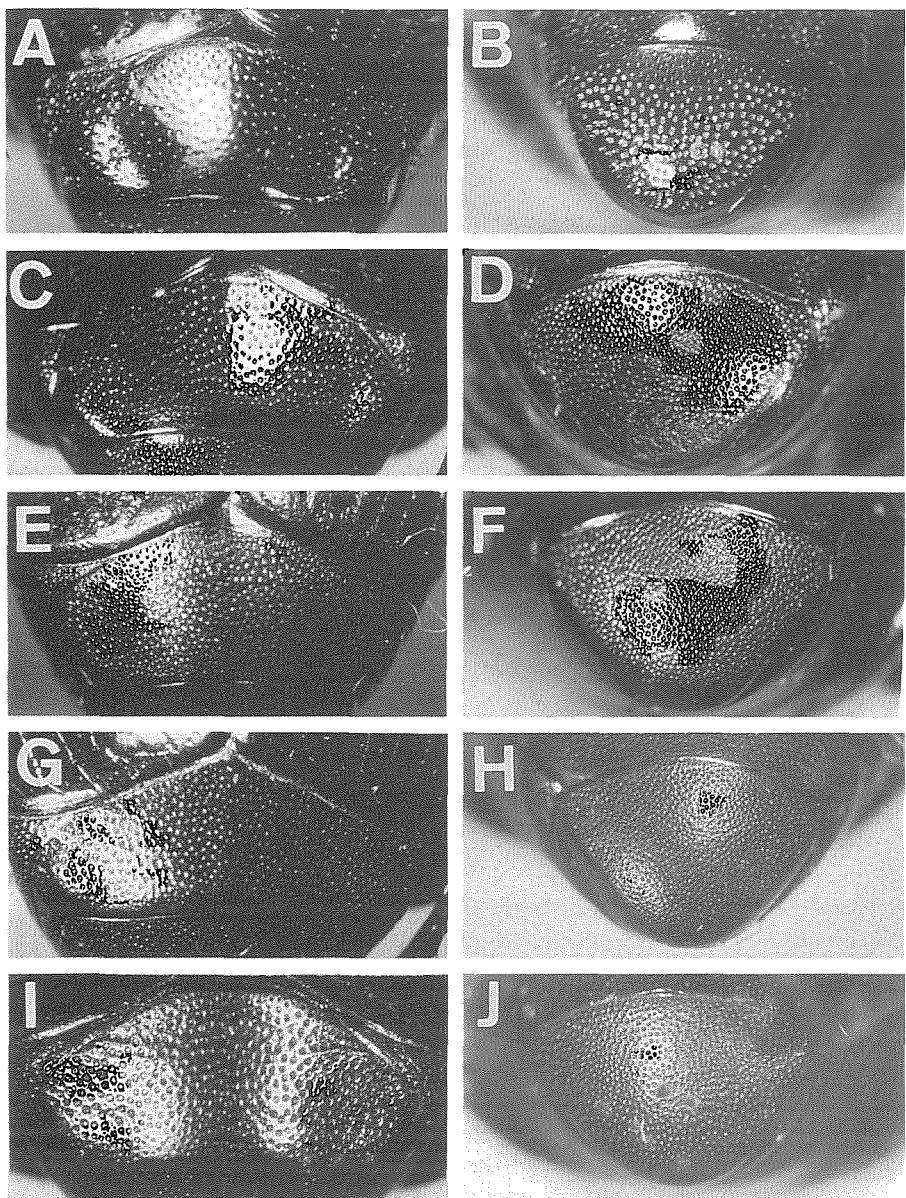


Fig. 18. Propygidium (A, C, E, G, I) and pygidium (B, D, F, H, J) of *Margarinotus* spp. A-B: *M. (P.) boleti* (Lewis). C-D: *M. (P.) cadavericola* (Bickhardt). E-F: *M. (P.) agnatus* (Lewis). G-H: *M. (P.) weymanni* Wenzel. I-J: *M. (P.) reichardti* Kryzhanovskij.

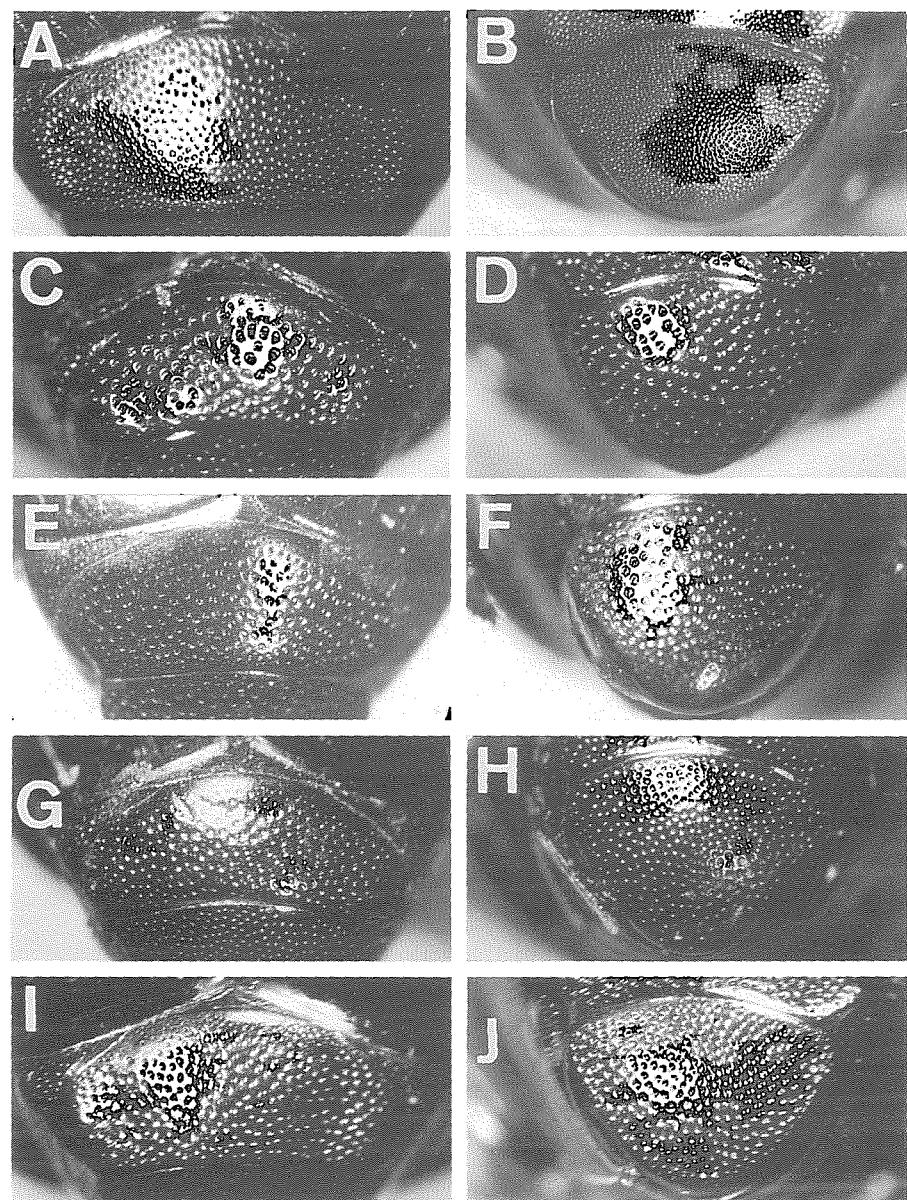


Fig. 19. Propygidium (A, C, E, G, I) and pygidium (B, D, F, H, J) of *Margarinotus* spp. A-B: *M. (P.) striola* (C.R. Schalberg). C-D: *M. (P.) yezoensis* M. Ôhara. E-F: *M. (P.) marginepunctatus* (Lewis). G-H: *M. (P.) sutus* (Lewis). I-J: *M. (P.) niponicus* (Lewis).

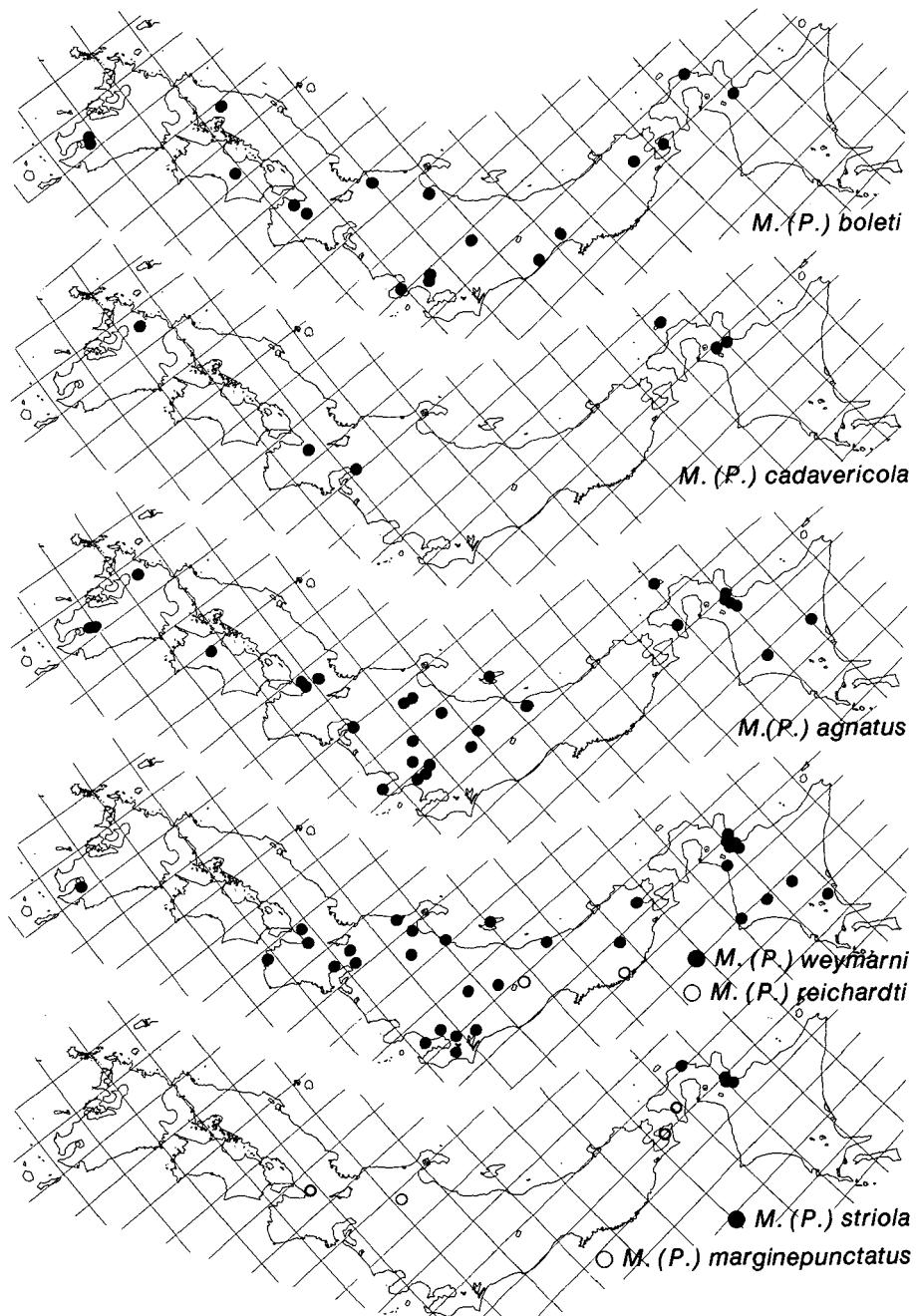


Fig. 20. Geographic distribution of *Margarinotus* spp.

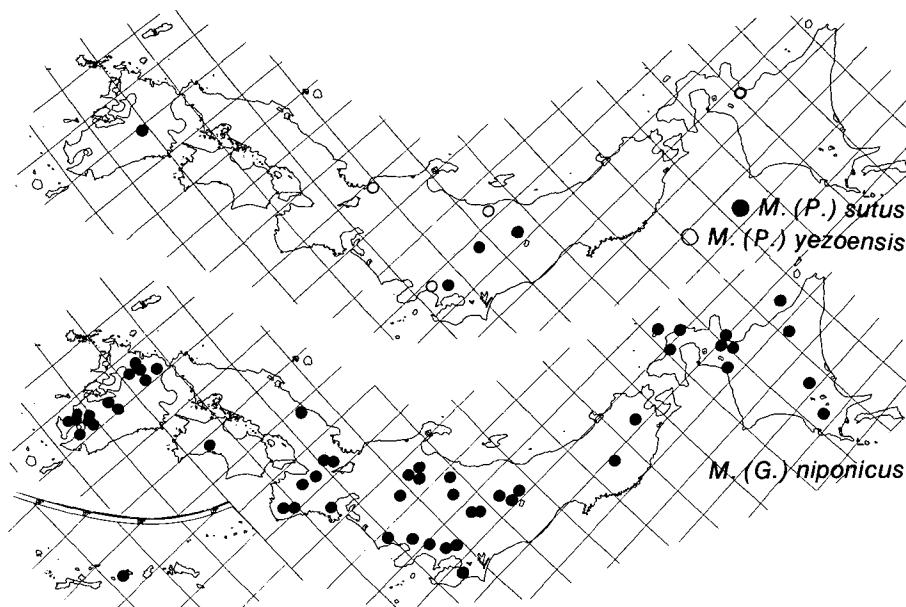


Fig. 21. Geographic distribution of *Margarinotus* spp.

Table 12. Types of the male genitalia of the genus *Margarinotus*.

Types of male genitalia	Subgenera or groups	
Spoon-shaped	<i>Weymarni</i> -group*	
	<i>Margarinotus</i>	
	A group of <i>Grammostethus</i> (including <i>ruficornis</i>)	
Stick-shaped	<p>Apex of median lobe trilobate</p> <p>Mid-line of median lobe with a large denticle</p> <p>Median lobe without lobe and denticle</p>	<p><i>Koltzei</i>-group*</p> <p><i>Paralister</i></p> <p><i>Eucalohister</i></p> <p><i>Sutus</i>-group*</p> <p><i>Boleti</i>-group*</p> <p>Another group of <i>Grammostethus</i> (including <i>niponicus</i>)</p> <p><i>Stenister</i></p> <p><i>Promethister</i></p>

* Groups of the subgenus *Ptomister*.

form the subgenera do not reflect phylogenetic relationships, involving parallelism and even convergence, and that the present classification within the genus *Margarinotus* is not natural. I may conclude, therefore, that (1) the subgenus *Ptomister* is a polyphyletic group, and (2) the *koltzei*-group should be united with the subgenus *Paralister*, and the *sutus*-group with the subgenus *Eucalohister*, to form a monophyletic taxon respectively. These conclusions, however, should be tested with further material.

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* Original not seen.

APPENDIX

A list of species of the genus *Margarinotus* of which the male genitalia have been studied in the present paper ("Ôhara, 1989" in the list) and by other authors.

Species	References
<i>Margarinotus</i>	
(<i>Margarinotus</i>)	
<i>guttifer</i> Horn	Wenzel, 1944 : pl. 6, f. 1.
(<i>Piomister</i>)	
⟨ <i>Boleti</i> -group⟩	
<i>boleti</i> (Lew.)	Ôhara, 1989 : 12, f. 5.
<i>fenderi</i> Wenz.	Wenzel, 1960 : 461, f. D, E.
⟨ <i>Weymarni</i> -group⟩	
<i>agnatus</i> (Lew.)	Wenzel, 1944 : pl. 6, f. 2, as <i>balloui</i> Wenz. Kryzhanovskij and Reichardt, 1976 : 333, f. 644. Ôhara, 1989 : 17, f. 6.
<i>brunneus</i> (F.)	Sharp and Muir, 1912 : f. 79, 79a, as <i>cadaverinus</i> Hoffm. Wenzel, 1944 : pl. 6, f. 4, as ditto.
<i>cadavericola</i> (Bickh.)	Kryzhanovskij and Reichardt, 1976 : 333, f. 643, as ditto. Wenzel, 1944 : pl. 8, f. 1, as <i>ussuriensis</i> Reich. Kryzhanovskij and Reichardt, 1976 : 333, f. 645. Ôhara, 1989 : 12, f. 5.
<i>distinctus</i> (Er.)	Kryzhanovskij and Reichardt, 1976 : 333, f. 650.
<i>fractifrons</i> (Csy.)	Hatch, 1962 : pl. 56, f. 8.
<i>multidens</i> (Schm.)	Kryzhanovskij and Reichardt, 1976 : 333, f. 649.
<i>rectus</i> (Csy.)	Hatch, 1962 : pl. 56, f. 9.
<i>reichardti</i> Kryzh.	Kryzhanovskij and Reichardt, 1976 : 333, f. 646. Ôhara, 1989 : 23, f. 9.
<i>striola</i> (C.R. Shalb.)	Wenzel, 1944 : pl. 7, f. 1, as <i>striolides</i> Wenz. Kryzhanovskij and Reichardt, 1976 : 343, f. 676-9. Ôhara, 1989 : 30, f. 11.
ssp. <i>succicola</i> (Thomson)	Wenzel, 1944 : pl. 7, f. 2, as <i>striola</i> C.R. Shalb. Kryzhanovskij and Reichardt, 1976 : 333, f. 648 ; 343, f. 674-5. Ôhara, 1989 : 26, f. 10.
<i>tristriatus</i> Wenz.	Wenzel, 1944 : pl. 7, f. 3, 4.
<i>weymarni</i> Wenz.	Kryzhanovskij and Reichardt, 1976 : 349, f. 690. Wenzel, 1944 : pl. 6, f. 3.
<i>yezoensis</i> M. Ôhara	Kryzhanovskij and Reichardt, 1976 : 333, f. 647. Ôhara, 1989 : 21, f. 8.
⟨ <i>Koltzei</i> -group⟩	Ôhara, 1989 : 30, f. 11.
<i>hilar</i> Wenz.	Kryzhanovskij and Reichardt, 1976 : 349, f. 694-5.
<i>koltzei</i> (Schm.)	Kryzhanovskij and Reichardt, 1976 : 349, f. 691-3.
⟨ <i>Sutus</i> -group⟩	
<i>marginepunctatus</i> (Lew.)	Ôhara, 1989 : 30, f. 11.
<i>sutus</i> (Lew.)	Ôhara, 1989 : 30, f. 11.

Species	References
<?>	
<i>kathmandu</i> Mazur	Mazur, 1984 : 164, f. 3-5.
<i>merdarius</i> (Hoffm.)	Kryzhanovskij and Reichardt, 1976 : 349, f. 688.
<i>terricola</i> (Germ.)	Kryzhanovskij and Reichardt, 1976 : 349, f. 689.
<i>wenzelianus</i> Kryzh.	Kryzhanovskij and Reichardt, 1976 : 416, f. 4.
(<i>Eucalohister</i>)	
<i>bipustulatus</i> (Schrank)	Kryzhanovskij and Reichardt, 1976 : 374, f. 785-7.
<i>binotatus</i> (Er.)	Kryzhanovskij and Reichardt, 1976 : 375, f. 788.
<i>gratiosus</i> (Mnnh.)	Kryzhanovskij and Reichardt, 1976 : 375, f. 790-1.
<i>kurdistanus</i> (Mars.)	Kryzhanovskij and Reichardt, 1976 : 375, f. 792-3.
<i>mirabilis</i> (Khnz.)	Kryzhanovskij and Reichardt, 1976 : 375, f. 794-5.
<i>solskyi</i> (Schm.)	Kryzhanovskij and Reichardt, 1976 : 375, f. 789.
(<i>Stenister</i>)	
<i>bickhardti</i> (Rtt.)	Kryzhanovskij and Reichardt, 1976 : 371, f. 773-4.
<i>graecus</i> (Brullé)	Kryzhanovskij and Reichardt, 1976 : 371, f. 775-7.
<i>kabakovi</i> Kryzh.	Kryzhanovskij, 1980 : 143, f. 3.
<i>obscurus</i> (Kugelann)	Kryzhanovskij and Reichardt, 1976 : 371, f. 770-2., as <i>stercorarius</i> (Hoffm.).
(<i>Paralister</i>)	
<i>carbonarius</i> (Ill.)	Kryzhanovskij and Reichardt, 1976 : 357, f. 725-6.
<i>ignobilis</i> (Mars.)	Kryzhanovskij and Reichardt, 1976 : 357, f. 731-2.
<i>koenigi</i> (Schm.)	Wenzel, 1944 : pl. 8, f. 2.
<i>laevifossa</i> (Schm.)	Kryzhanovskij and Reichardt, 1976 : 357, f. 723-4 ; 361, f. 738-9.
<i>lecontei</i> Wenz.	Kryzhanovskij and Reichardt, 1976 : 361, f. 740-1.
<i>neglectus</i> (Germ.)	Wenzel, 1944 : pl. 8, f. 3.
<i>oblongulus</i> (Schm.)	Kryzhanovskij and Reichardt, 1976 : 361, f. 735.
<i>punctiventer</i> (Mars.)	Kryzhanovskij and Reichardt, 1976 : 361, f. 742.
<i>purpurascens</i> (Hbst.)	Kryzhanovskij and Reichardt, 1976 : 357, f. 728., as <i>stigmosus</i> (Mars.).
<i>silantjevi</i> (Schir.)	Kryzhanovskij and Reichardt, 1976 : 361, f. 736-7.
<i>uncostriatus</i> (Mars.)	Kryzhanovskij and Reichardt, 1976 : 357, f. 727.
<i>ventralis</i> (Mars.)	Kryzhanovskij and Reichardt, 1976 : 357, f. 729-30.
(<i>Grammostethus</i>)	
<i>niponicus</i> (Lew.)	Kryzhanovskij and Reichardt, 1976 : 357, f. 733-4.
<i>ruficornis</i> (Grimm)	Kryzhanovskij and Reichardt, 1976 : 368, f. 757-60.
(<i>Promethister</i>)	
<i>confusus</i> Wenz.	Ôhara, 1989 : 40, f. 17.
<i>marginatus</i> (Er.)	Kryzhanovskij and Reichardt, 1976 : 368, f. 751-4.
<i>marginicollis</i> (J.E. LeConte)	
<i>prometheus</i> (Kryzh.)	Wenzel, 1944 : pl. 9, f. 3.
(<i>Species incertae sedis</i>)	Kryzhanovskij and Reichardt, 1976 : 365, f. 749.
<i>felipae</i> (Lew.)	Wenzel, 1944 : pl. 9, f. 1.
	Kryzhanovskij and Reichardt, 1976 : 365, f. 748.
	Wenzel, 1944 : pl. 9, f. 2.